

CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

January 10, 1986 / Vol. 35 / No. 1

- 1 Measles — United States, First 26 Weeks, 1985
- 5 Rapid Nutrition Evaluation during Drought Conditions — Burkina Faso, 1985
- 12 Penicillinase-Producing *Neisseria gonorrhoeae* — United States, Florida
- 14 Update: Influenza Activity — United States

SPARK PUBLIC LIBRARY

FEB 3 1986

Current Trends

Measles — United States, First 26 Weeks, 1985

Through December 28, 2,704 measles cases in the United States were reported to the MMWR for 1985. Results of detailed analyses are available for cases reported during the first 26 weeks, when a provisional total of 1,802 cases was reported, a 2.4% increase over the 1,759 cases reported during the same period in 1984 (1). The overall incidence rate in both years was 0.8 cases per 100,000 population for the 26-week period. Eight states accounted for 1,333 (73.9%) cases: Illinois (259 cases), Texas (236), Arizona (194), California (143), Montana (139), Idaho (126), New York (124), and Massachusetts (112). Ten states had incidence rates greater than 1/100,000 population: Arizona, Hawaii, Idaho, Illinois, Maryland, Massachusetts, Montana, Texas, West Virginia, and Wisconsin. During the first half of 1984 and 1985, 19 and 20 states, respectively, reported measles cases (indigenous or imported). For each year, 2.5% of the nation's 3,139 counties reported measles cases during the period.

Detailed information was provided to the Division of Immunization, Center for Prevention Services, CDC, on 1,801 of the cases reported during the first 26 weeks of 1985. Of these, 1,750 (97.2%) met the standard case definition for measles,* and 661 (36.7%) were serologically confirmed. In most cases (72%), onset of rash occurred between weeks 8 and 20 (weeks ending February 23 and May 25, respectively). There was a biphasic distribution of cases during this period (Figure 1).

In the first half of 1984, the highest incidence rate was reported among children 10-14 years of age (Table 1). By comparison, in the first half of 1985, the highest incidence rate was reported among 15- to 19-year-olds (3.1/100,000), followed by preschool-aged children (2.5/100,000). The incidence rate among 10- to 14-year-olds decreased from 2.9/100,000 in 1984 to 1.8/100,000 in 1985. Of the 466 preschool-aged children with measles, 137 (29.4%) were infants under 1 year of age; 81 (17.4%) were 12-14 months of age; 24 (5.2%) were 15 months of age; and 224 (48.1%) were 16 months-4 years of age.

Of the 1,256 (69.7%) patients for whom the setting of transmission was reported, 903 (71.9%) acquired measles in school†; 126 (10.0%), at home; 63 (5.0%), in medical settings; 41 (3.3%), in daycare centers; 18 (1.4%), in church, and 105 (8.4%), in a variety of other settings, including sporting events and summer camp.

Seventy cases (3.9%) were international importations. An additional 128 (7.1%) cases

*Fever (38.3 C [101 F] or higher, if measured), generalized rash of 3 days' or longer duration, and at least one of the following: cough, coryza, conjunctivitis.

†Includes kindergarten through college.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

READER
FICHE

best copy available

Measles — Continued

were epidemiologically linked to an international importation within two generations of infection. Therefore, 198 (11.0% of all cases) were classified as international importations during this period (2).

Vaccination status of patients in 1984 and 1985 was similar. Of the 1,801 cases reported during the first 26 weeks of 1985, 859 of the patients had been vaccinated on or after the first birthday; 247 had been vaccinated at 12-14 months of age (Table 2). A total of 846 measles patients were unvaccinated, and 96 had histories of inadequate vaccination (vaccinated before the first birthday).

FIGURE 1. Reported measles cases, by week of rash onset — United States, first 26 weeks, 1985

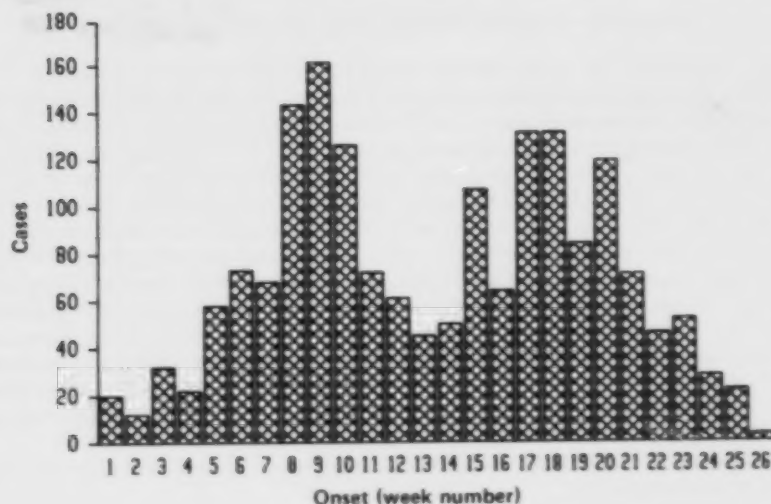


TABLE 1. Age distribution and estimated incidence rates of measles — United States, first 26 weeks, 1984 and 1985*

Age group (yrs.)	1984			1985			Rate change (%)
	No.	(%)	Rate†	No.	(%)	Rate†	
0-4	351	(19.9)	2.0	466	(25.9)	2.5	+25.0
5-9	201	(11.4)	1.3	152	(8.4)	0.9	-30.8
10-14	515	(29.2)	2.9	319	(17.7)	1.8	-37.9
15-19	470	(26.6)	2.4	603	(33.5)	3.1	+29.2
20-24	137	(7.8)	0.8	175	(9.7)	0.8	+33.3
≥ 25	91	(5.1)	0.1	86	(4.8)	0.1	0.0
Total	1,765‡	(100.0)	0.8	1,801	(100.0)	0.8	0.0

*Provisional data.

†Per 100,000 population.

‡The difference between this number and that in the text reflects differences between summary data reported to MMWR and more detailed data available to CDC's Division of Immunization.

Measles — Continued

Of the 1,801 cases, 466 (25.9%) were classified as preventable (2) (Table 3). The highest proportion of preventable cases occurred among persons who were not of school age: 69.2% of cases among children 16 months-4 years of age were preventable. Only 20.4% of cases among persons 5-19 years of age were preventable; however, 47.0% of all preventable cases occurred in this age group.

Of the 1,335 persons with nonpreventable cases, 242 (18.1%) were too young for routine vaccination (under 16 months of age), and 42 (3.1%) were too old (born before 1957) (Table 4). Of the 1,051 who were between 16 months and 28 years of age, 842 (80.1%) had been vaccinated on or after the first birthday; 11 (1.0%) had a prior physician diagnosis of measles; 34 (3.2%) were not U.S. citizens; and 163 (15.5%) had medical contraindications or exemptions under state law. One person (0.1%) had laboratory evidence of immunity.

Reported by Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: In the prevaccine era, an average of 500,000 measles cases was reported

TABLE 2. Ages of measles patients at most recent vaccination — United States, first 26 weeks, 1984 and 1985*

Age at vaccination	1984		1985	
	No.	(%)	No.	(%)
< 12 mos.	135	(7.6)	96	(5.3)
12-14 mos.	255	(14.4)	247	(13.7)
15 mos.	34	(1.9)	46	(2.6)
16 mos.-4 yrs.	303	(17.2)	325	(18.0)
5-9 yrs.	139	(7.9)	165	(9.2)
10-14 yrs.	32	(1.8)	70	(3.9)
15-19 yrs.	8	(0.5)	5	(0.3)
≥ 20 yrs.	2	(0.1)	1	(0.1)
Unknown (> 12 mos.)	3	(0.2)	0	(0.0)
Unvaccinated	854	(48.4)	846	(47.0)
Total	1,765	(100.0)	1,801	(100.0)

*Provisional data.

TABLE 3. Age distribution and preventability of measles cases — United States, first 26 weeks, 1985*

Age group	Preventable		Nonpreventable		Total
	No.	(%)	No.	(%)	
< 15 mos.	0	(0.0)	242	(100.0)	242
16 mo.-4 yrs.	155	(69.2)	69	(30.8)	224
5-9 yrs.	32	(21.1)	120	(78.9)	152
10-14 yrs.	52	(16.3)	267	(83.7)	319
15-19 yrs.	135	(22.4)	468	(77.6)	603
20-24 yrs.	60	(34.3)	115	(65.7)	175
25-29 yrs.	32	(60.4)	21	(39.6)	53
≥ 30 yrs.	0	(0.0)	33	(100.0)	33
Total	466	(25.9)	1,335	(74.1)	1,801

*Provisional data.

Measles — Continued

each year (3). After measles vaccine was licensed in 1963, the incidence of measles markedly declined. Since 1981, the number of reported measles cases has remained relatively constant: 3,124 in 1981, 1,714 in 1982, 1,497 in 1983, and 2,534 in 1984. The number of cases reported during the first half of 1985 is similar to that reported during the first half of 1984 (1). As in recent years, measles was geographically restricted: 97.5% of the nation's counties were free of measles during this period.

While incidence rates during the first 26 weeks of 1984 and 1985 were comparable, there were differences in the age characteristics of patients. In 1984, persons 10-14 years of age accounted for approximately 29% of cases, compared with only 18% of cases in 1985. The incidence rate for 15- to 19-year-olds was higher in 1985. Over a third of measles patients were in this age group, due in part to the large number of outbreaks on college campuses in 1985 (4). Colleges and universities are now beginning to require evidence of immunity to measles for matriculation; this requirement should result in a decrease in measles in this population.

As the measles elimination strategy is successfully implemented, the proportion of preventable cases should decrease. The decrease in the percentage of preventable cases from 34.6% in 1984 (1) to 25.2% during the first half of 1985 is encouraging. As in 1984, preschool-aged children over 15 months of age had the highest proportion of preventable cases. Because these children are not reached by existing school laws, greater efforts need to be directed to this age group. School-aged persons accounted for the largest percentage of all preventable cases, and schools were the setting of transmission for the majority of cases. Therefore, continued enforcement of current school immunization laws is important for further reduction of measles in the United States.

References

1. CDC. Measles—United States, first 26 weeks, 1984. MMWR 1984;33:495-6, 501-4.
2. CDC. Classification of measles cases and categorization of measles elimination programs. MMWR 1982;31:707-11.
3. CDC. Measles surveillance report no. 11, 1977-1981. Atlanta, Georgia: Centers for Disease Control, 1982.
4. CDC. Measles on college campuses—United States, 1985. MMWR 1985;34:445-9.

TABLE 4. Reasons measles cases were classified as nonpreventable — United States, first 26 weeks, 1985*

Causes of nonpreventability	No. cases (%)	Percentage of total cases
< 16 months	242 (18.1)	13.4
Born before 1957	42 (3.1)	2.3
16 mos.-28 yrs	1,051 (78.7)	58.4
Adequately vaccinated	842 (80.1)	
Prior physician diagnosis	11 (1.0)	
Non-U.S. citizens	34 (3.2)	
Exemptions†	163 (15.5)	
Laboratory evidence of immunity	1 (0.1)	
Total	1,335 (100.0)	74.1

*Provisional data.

†Medical exemptions—8; religious—150; philosophic—5.

International Notes

Rapid Nutrition Evaluation During Drought Conditions — Burkina Faso, 1985

Burkina Faso, a landlocked Sahelian country with a population of 7.2 million, experienced a severe drought in late 1984 and early 1985. At the request of the U.S. Agency for International Development and the Government of Burkina Faso, a rapid evaluation of the nutrition status of children 65-110 cm tall (approximately 6-59 months of age) was undertaken. The survey was conducted in Soum and GnaGna, two of the eight drought-affected provinces in northern Burkina Faso. Ten villages in each province were randomly selected for data collection (7).

A random sample of 339 children in Soum and 366 children in GnaGna were included in the survey. Height, weight, and arm circumference of the children in each village were measured, and clinical examinations for edema and avitaminosis A and C were done on 30-40 children. A standardized questionnaire to evaluate the children's measles vaccination status, recent illnesses, and food consumption was administered to the mothers of children in the sample.

Acute undernutrition (less than 80% of the median weight-for-height [2,3]) was found in 10.6% of children in Soum and 5.7% of children in GnaGna (Table 5). Severe acute undernutrition (less than 70% of the median weight-for-height) was found in 1.8% of children in Soum and in 1.1% of children in GnaGna. However, an additional 14.2% of children in Soum and 11.2% of those in GnaGna were between 80% and 84% of median weight-for-height. Similar

TABLE 5. Nutrition status and other health indicators among children 6-60 months of age — Soum and GnaGna provinces, Burkina Faso, April 1985

Characteristic	Soum		GnaGna	
	No.	(%)	No.	(%)
Median weight-for-height				
< 70%	6	(1.8)	4	(1.1)
70%-79%	30	(8.8)	17	(4.6)
80%-84%	48	(14.2)	41	(11.2)
Arm circumference				
< 12.5 cm	26	(7.7)	18	(4.9)
12.5-13.4 cm	56	(16.5)	49	(13.4)
Diarrhea	71	(20.9)	42	(11.4)
Vitamin A deficiency*	1	(0.0)	4	(1.1)
Scurvy†	0	(0.0)	4	(1.1)
Measles vaccine‡	220	(64.9)	217	(59.3)
Total children	339		366	

*Diagnosed by presence of Bitot's spots, corneal ulceration, and/or corneal scarring.

†Diagnosed by presence of bleeding gums and/or swollen joints.

‡Determined by immunization card.

Nutrition Evaluation — Continued

rates of undernutrition were detected by arm circumference less than 12.5 cm and weight-for-height less than 80% of the median; 7.7% of children in Soum and 4.9% of children in GnaGna had arm circumferences below this level. No kwashiorkor, as evidenced by pedal edema, was seen. Clinical signs of vitamin A and vitamin C deficiencies were found infrequently in both provinces. An episode of diarrhea within the past 2 weeks was reported among 21% of children in Soum and 11% of children in GnaGna. Sixty-five percent of the children in Soum and 59% in GnaGna had been immunized against measles. Among families surveyed in Soum, 88% were currently receiving food aid; none of the families surveyed in GnaGna were receiving aid.

Recommendations emphasized: (1) increased distribution of basic rations in the most severely affected provinces and of supplemental feeding for vulnerable groups in all the drought-affected provinces; (2) ongoing surveillance at the village level, as well as follow-up nutrition surveys in the drought-affected provinces, to monitor changes in nutrition status and

(Continued on page 11)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	First Week Ending			Cumulative, First Week Ending		
	Jan. 4, 1986	Jan. 5, 1985	Median 1981-1985	Jan. 4, 1986	Jan. 5, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	177	87	N	177	87	N
Aseptic meningitis	48	46	76	48	46	76
Encephalitis: Primary (arthropod-borne & unspecified)	7	11	11	7	11	11
Post-infectious	4	4	1	4	4	1
Gonorrhea: Civilian	8,881	10,855	18,213	8,881	10,855	18,213
Military	150	190	369	150	190	369
Hepatitis: Type A	248	233	315	248	233	315
Type B	295	266	267	295	266	267
Non A, Non B	42	47	N	42	47	N
Unspecified	58	60	90	58	60	90
Legionellosis	6	7	N	6	7	N
Leprosy	—	5	5	—	5	5
Measles	7	4	12	7	4	12
Total*	—	8	10	—	8	10
Indigenous	—	7	N	—	7	N
Imported	—	1	N	—	1	N
Meningococcal infections: Total	31	29	41	31	29	41
Civilian	31	29	41	31	29	41
Military	—	—	—	—	—	—
Mumps	9	28	46	9	28	46
Pertussis	18	7	12	18	7	12
Rubella (German measles)	1	6	14	1	6	14
Syphilis (Primary & Secondary): Civilian	252	274	518	252	274	518
Military	1	3	3	1	3	3
Toxic Shock syndrome	5	4	N	5	4	N
Tuberculosis	139	141	216	139	141	216
Tularemia	—	—	1	—	—	1
Typhoid fever	1	3	4	1	3	4
Typhus fever, tick-borne (RMSF)	—	—	1	—	—	1
Rabies, animal	20	52	72	20	52	72

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986	Cum 1985
Anthrax	—	—
Botulism: Foodborne	—	—
Infant	—	—
Other	—	—
Brucellosis	—	—
Cholera	—	—
Congenital rubella syndrome	—	—
Congenital syphilis, ages < 1 year	—	—
Diphtheria	—	—
Legionellosis: Bioterror 2)	—	2
Plague	—	—
Polioomyelitis, Paralytic	—	—
Psittacosis	—	—
Rabies, human	—	—
Tetanus (Toxin 1)	—	1
Trichinosis	—	—
Typhus fever: flea-borne (endemic, murine)	—	—

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
January 4, 1986 and January 5, 1985 (First Week)

Reporting Area	AIDS	Asptic Menin- gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral, by type)				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	177	48	7	-	8 891	10 855	248	295	42	58	6	-
NEW ENGLAND	8	5	-	-	324	479	2	15	-	2	-	-
Maine	-	-	-	-	14	16	2	5	-	-	-	-
H	-	-	-	-	4	13	-	-	-	-	-	-
I	-	-	-	-	4	2	-	-	-	-	-	-
Mass	8	2	-	-	172	95	-	10	-	2	-	-
I	-	3	-	-	25	45	-	-	-	-	-	-
Conn	-	-	-	-	105	308	-	-	-	-	-	-
MID ATLANTIC	23	-	-	-	168	1 065	4	10	2	2	-	-
State N.Y.	11	-	-	-	-	-	-	-	-	-	-	-
Y City	4	-	-	-	-	100	-	1	-	-	-	-
J	-	-	-	-	168	271	4	9	2	2	-	-
D	8	U	-	-	-	694	U	U	U	U	U	-
N CENTRAL	17	9	4	-	1 165	1 281	8	36	2	3	2	-
I	17	4	2	-	491	285	7	26	1	2	2	-
I	-	-	-	-	-	111	-	-	-	-	-	-
I	-	-	-	-	217	445	-	-	-	-	-	-
Arch	-	5	2	-	386	365	1	10	1	1	-	-
Va	-	-	-	-	71	75	-	-	-	-	-	-
N CENTRAL	-	1	-	-	771	703	3	7	1	-	-	-
I	-	-	-	-	103	111	-	-	-	-	-	-
I	-	1	-	-	71	41	2	2	-	-	-	-
I	-	-	-	-	359	252	1	4	1	-	-	-
Dak	-	-	-	-	10	4	-	-	-	-	-	-
Dak	-	-	-	-	9	13	-	1	-	-	-	-
I	-	-	-	-	49	-	-	-	-	-	-	-
I	-	-	-	-	219	233	-	-	-	-	-	-
ATLANTIC	27	7	1	-	1 893	1 758	4	27	3	2	2	-
I	1	-	-	-	64	42	-	1	-	-	1	-
I	1	3	1	-	503	296	1	5	1	1	-	-
I	5	-	-	-	158	171	-	1	-	-	-	-
I	-	3	-	-	204	236	-	7	-	1	-	-
I	-	-	-	-	21	68	-	-	-	-	-	-
I	-	1	-	-	263	289	3	8	2	-	1	-
I	-	-	-	-	330	457	-	3	-	-	-	-
I	-	-	-	-	350	199	-	-	-	-	-	-
I	20	-	-	-	-	-	-	-	-	-	-	-
S CENTRAL	-	11	2	-	845	892	4	26	6	5	-	-
I	-	1	-	-	113	122	1	1	-	3	-	-
I	-	2	-	-	440	410	-	9	1	-	-	-
I	-	8	2	-	80	270	3	16	5	2	-	-
I	-	-	-	-	212	90	-	-	-	-	-	-
W S CENTRAL	23	-	-	-	1 554	1 594	-	6	2	-	-	-
I	1	-	-	-	192	192	-	-	-	-	-	-
I	-	-	-	-	192	215	-	6	2	-	-	-
I	-	-	-	-	135	169	-	-	-	-	-	-
I	22	-	-	-	1 035	1 018	-	-	-	-	-	-
ROCKY MOUNTAIN	2	1	-	-	449	385	43	40	8	5	-	-
I	1	-	-	-	12	20	-	1	-	-	-	-
I	-	-	-	-	-	10	-	-	-	-	-	-
I	-	-	-	-	-	7	-	-	-	-	-	-
I	1	1	-	-	93	158	3	8	-	3	-	-
I	-	-	-	-	26	61	10	10	-	-	-	-
I	-	-	-	-	165	42	20	18	8	2	-	-
I	-	-	-	-	15	17	5	2	-	-	-	-
I	-	-	-	-	138	70	5	1	-	-	-	-
PACIFIC	77	14	-	-	1 712	2 698	180	128	18	39	2	-
I	8	-	-	-	-	128	2	3	1	-	-	-
I	1	-	-	-	66	87	63	16	2	-	-	-
I	70	9	-	-	1 602	2 416	124	107	14	39	2	-
I	-	-	-	-	29	38	1	1	-	-	-	-
I	-	9	-	-	15	31	-	1	1	-	-	-
POWELL	-	U	-	-	-	3	U	U	U	U	U	-
I	-	U	-	-	-	4	U	U	U	U	U	-
I	-	U	-	-	-	5	U	U	U	U	U	-
I	-	U	-	-	-	-	U	U	U	U	U	-
I	-	U	-	-	-	-	U	U	U	U	U	-
I	-	U	-	-	-	-	U	U	U	U	U	-

Not notifiable

U. Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 4, 1986 and January 5, 1985 (First Week)

Reporting Area	Malaria	Measles (Rubella)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
		Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986
UNITED STATES	7	-	-	-	-	8	31	9	9	18	18	7	1	1	6
NEW ENGLAND	-	-	-	-	-	-	2	-	-	2	2	-	-	-	-
Maine	-	-	-	-	-	-	2	-	-	1	1	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mass.	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
R.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MID ATLANTIC	-	-	-	-	-	-	7	-	-	-	-	-	-	-	4
Upstate N.Y.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N.Y. City	-	-	-	-	-	-	7	-	-	-	-	-	-	-	3
N.J.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Pa.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
E.N. CENTRAL	-	-	-	-	-	7	5	-	-	-	-	4	-	-	-
Ohio	-	-	-	-	-	-	3	-	-	-	-	2	-	-	-
Ind.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ill.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mich.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Wis.	-	-	-	-	-	7	-	-	-	-	-	2	-	-	-
W.N. CENTRAL	-	-	-	-	-	-	2	1	1	3	3	1	-	-	-
Minn.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-
Mo.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-
S. ATLANTIC	2	-	-	-	-	-	1	3	3	4	4	1	-	-	1
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	2	-	-	-	-	-	-	2	2	2	2	-	-	-	-
W. Va.	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
N.C.	-	-	-	-	-	-	1	-	-	2	2	-	-	-	-
S.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Ge.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fla.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E.S. CENTRAL	-	-	-	-	-	-	5	-	-	1	1	-	1	1	-
Ky.	-	-	-	-	-	-	2	-	-	-	-	-	1	1	-
Tenn.	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-
Ala.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ark.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
La.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okl.	-	-	-	-	-	-	-	N	N	-	-	-	-	-	-
Tex.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOUNTAIN	-	-	-	-	-	1	4	3	3	3	3	1	-	-	-
Mont.	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N. Mex.	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
N. Mex.	-	-	-	-	-	-	2	N	N	-	-	1	-	-	-
Ariz.	-	-	-	-	-	-	1	2	2	2	2	-	-	-	-
Utah	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Nev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	5	-	-	-	-	-	5	2	2	5	5	-	-	-	1
Wash.	-	-	-	-	-	-	1	-	-	2	2	-	-	-	-
Oreg.	-	-	-	-	-	-	1	N	N	-	-	-	-	-	-
Calif.	5	-	-	-	-	-	2	2	2	3	3	-	-	-	1
Alaska	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guam	-	U	-	U	-	1	-	U	-	U	-	-	U	-	-
P.R.	-	U	-	U	-	1	-	U	-	U	-	-	U	-	-
V.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International ‡ Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 4, 1986 and January 5, 1985 (First Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	252	274	5	139	141	-	1	-	20
NEW ENGLAND	10	3	-	1	7	-	1	-	-
Maine	-	-	-	1	-	-	-	-	-
N.H.	-	-	-	-	3	-	-	-	-
Vt.	-	-	-	-	-	-	-	-	-
Mass.	6	1	-	-	2	-	1	-	-
R.I.	-	-	-	-	-	-	-	-	-
Conn.	4	2	-	-	2	-	-	-	-
MID ATLANTIC	9	27	-	45	41	-	-	-	-
Upstate N.Y.	-	19	-	22	25	-	-	-	-
N.Y. City	9	7	-	23	-	-	-	-	-
Pa.	-	1	U	-	16	-	-	-	-
E.N. CENTRAL	-	14	3	14	22	-	-	-	-
Ohio	-	2	-	2	7	-	-	-	-
Ind.	-	1	-	-	-	-	-	-	-
Ill.	-	7	-	10	15	-	-	-	-
Mich.	-	3	3	-	-	-	-	-	-
Wis.	-	1	-	2	-	-	-	-	-
W.N. CENTRAL	1	5	-	8	1	-	-	-	1
Minn.	1	-	-	-	-	-	-	-	-
Iowa	-	1	-	-	1	-	-	-	1
Mo.	-	2	-	-	-	-	-	-	-
N. Dak.	-	-	-	1	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-
Nebr.	-	1	-	-	-	-	-	-	-
Kans.	-	1	-	7	-	-	-	-	-
S. ATLANTIC	76	53	2	39	24	-	-	-	6
Del.	-	1	-	-	1	-	-	-	-
Md.	-	9	-	5	-	-	-	-	-
D.C.	6	-	-	2	4	-	-	-	-
Va.	13	4	-	-	-	-	-	-	-
W. Va.	1	-	-	-	1	-	-	-	-
N.C.	9	16	1	15	-	-	-	-	-
S.C.	12	7	1	1	12	-	-	-	2
Ga.	-	-	-	-	-	-	-	-	4
Fla.	35	16	-	16	6	-	-	-	-
E.S. CENTRAL	18	26	-	17	12	-	-	-	-
Ky.	-	-	-	-	2	-	-	-	-
Tenn.	18	11	-	1	3	-	-	-	-
Ala.	-	3	-	16	7	-	-	-	-
Miss.	-	12	-	-	-	-	-	-	-
W.S. CENTRAL	47	65	-	3	-	-	-	-	-
Ark.	6	6	-	-	-	-	-	-	-
La.	6	20	-	-	-	-	-	-	-
Okla.	-	2	-	3	-	-	-	-	-
Tex.	35	37	-	-	-	-	-	-	-
MOUNTAIN	7	15	-	2	1	-	-	-	10
Mont.	-	-	-	-	-	-	-	-	8
Idaho	-	-	-	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	1
Colo.	2	2	-	-	-	-	-	-	-
N. Mex.	-	-	-	1	-	-	-	-	1
Ariz.	-	-	-	-	-	-	-	-	-
Utah	5	13	-	1	1	-	-	-	-
Nev.	-	-	-	-	-	-	-	-	-
PACIFIC	84	66	-	10	33	-	-	-	3
Wash.	-	2	-	3	-	-	-	-	-
Oreg.	3	7	-	-	1	-	-	-	-
Calif.	80	55	-	7	32	-	-	-	3
Alaska	-	-	-	-	-	-	-	-	-
Hawaii	1	2	-	-	-	-	-	-	-
Guam	-	-	-	-	2	-	-	-	-
P.R.	-	2	U	-	-	-	-	-	-
V.I.	-	-	U	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-
Amer. Samoa	-	-	U	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 4, 1986 (First Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	712	481	149	39	19	24	71	S ATLANTIC	1,191	770	256	97	33	34	48
Boston, Mass.	154	95	38	7	4	12	25	Atlanta, Ga.	98	86	23	5	2	2	-
Bridgeport, Conn.	42	26	10	4	-	2	4	Baltimore, Md.	162	99	35	19	4	5	4
Cambridge, Mass.	25	20	4	1	-	1	1	Charlotte, N.C.	78	51	20	4	2	-	2
Fall River, Mass.	37	26	9	1	2	-	1	Jacksonville, Fla.	113	75	23	6	6	3	12
Hartford, Conn.	74	39	19	6	5	5	6	Miami, Fla.	157	88	38	18	8	6	1
Lowell, Mass.	42	31	7	3	1	-	4	Norfolk, Va.	65	33	20	8	3	1	6
Lynn, Mass.	17	13	4	-	-	-	-	Richmond, Va.	84	49	21	8	2	4	2
New Bedford, Mass.	22	13	8	2	1	-	-	Savannah, Ga.	31	16	8	3	2	2	-
New Haven, Conn.	62	43	8	9	-	2	4	St. Petersburg, Fla.	137	124	9	2	-	2	14
Providence, R.I.	62	44	12	3	1	2	6	Tampa, Fla.	83	61	12	8	1	3	3
Somerville, Mass.	11	9	2	-	-	-	1	Washington, D.C.	184	78	38	18	3	7	2
Springfield, Mass.	70	58	9	1	1	9	9	Wilmington, Del.	39	30	9	-	-	-	-
Waterbury, Conn.	36	24	9	1	2	-	5								
Worcester, Mass.	58	40	15	1	2	-	3								
MID ATLANTIC	3,045	2,043	632	221	68	91	150	E S CENTRAL	614	391	140	47	20	16	30
Albany, N.Y.	55	39	11	2	-	3	3	Birmingham, Ala.	71	44	18	5	3	1	1
Allentown, Pa.	33	27	5	1	-	-	1	Chattanooga, Tenn.	29	21	4	2	2	-	1
Buffalo, N.Y.	141	92	38	7	-	4	13	Knoxville, Tenn.	50	42	12	6	-	-	4
Camden, N.J.	60	41	10	4	2	3	1	Louisville, Ky.	101	67	22	5	7	-	6
Elizabeth, N.J.	34	26	7	1	-	-	2	Memphis, Tenn.	175	103	45	13	2	12	13
Erie, Pa.	38	28	6	1	1	-	1	Mobile, Ala.	57	42	10	4	-	1	3
Jersey City, N.J.	62	33	10	6	1	2	2	Montgomery, Ala.	28	16	8	3	-	-	1
N.Y. City, N.Y.	1,744	1,139	365	150	40	49	75	Nashville, Tenn.	34	56	21	10	6	1	2
Newark, N.J.	64	32	17	13	1	1	2								
Paterson, N.J.	30	17	6	3	2	2	3	W S CENTRAL	1,009	607	237	75	45	44	51
Philadelphia, Pa.	297	192	65	19	4	17	17	Austin, Tex.	41	22	10	3	4	2	2
Pittsburgh, Pa.	101	72	26	2	-	1	2	Baton Rouge, La.	28	20	4	1	2	1	3
Reading, Pa.	32	24	7	1	-	-	1	Corpus Christi, Tex.	42	23	10	3	4	2	1
Rochester, N.Y.	131	102	19	3	2	5	11	Dallas, Tex.	191	115	45	16	9	6	5
Schenectady, N.Y.	32	24	4	3	1	-	5	El Paso, Tex.	43	29	8	3	1	2	3
Syracuse, N.Y.	40	32	6	-	-	2	4	Fort Worth, Tex.	73	49	16	5	-	2	11
Trenton, N.J.	88	61	21	1	3	2	-	Houston, Tex.	133	88	39	16	5	5	3
Utica, N.Y.	19	16	1	2	-	-	2	Little Rock, Ark.	48	26	13	2	2	5	2
Yonkers, N.Y.	29	24	3	1	1	-	5	New Orleans, La.	165	98	35	10	7	5	2
								San Antonio, Tex.	166	88	40	14	8	8	13
								Shreveport, La.	25	17	6	1	-	1	-
								Tulsa, Okla.	74	54	11	1	3	5	6
EN CENTRAL	2,444	1,760	411	124	69	79	95	MOUNTAIN	688	460	131	35	17	42	30
Akron, Ohio	83	64	12	1	2	4	6	Albuquerque, N.Mex.	94	68	16	2	2	5	7
Canton, Ohio	55	37	14	4	-	-	5	Colorado Springs, Colo.	40	32	4	2	2	4	-
Chicago, Ill.	553	462	11	28	16	37	18	Denver, Colo.	108	71	18	8	-	11	1
Cincinnati, Ohio	141	92	36	10	2	1	9	Las Vegas, Nev.	84	54	20	5	-	4	3
Cleveland, Ohio	149	103	37	8	-	1	4	Ogden, Utah	21	17	2	1	1	-	2
Columbus, Ohio	128	82	28	9	9	2	-	Phoenix, Ariz.	161	107	20	7	4	13	2
Dayton, Ohio	114	69	38	5	2	2	5	Pueblo, Colo.	26	20	5	1	-	-	1
Detroit, Mich.	254	175	72	35	8	4	6	Salt Lake City, Utah	49	28	8	6	4	7	5
Evansville, Ind.	58	44	12	-	2	-	-	Tucson, Ariz.	105	66	28	5	4	2	5
Fort Wayne, Ind.	67	48	6	3	6	4	4								
Gary, Ind.	18	18	-	-	-	-	-	PACIFIC	1,818	1,214	344	158	59	35	125
Grand Rapids, Mich.	91	66	15	3	3	4	14	Berkeley, Calif.	20	13	3	3	-	1	1
Indianapolis, Ind.	195	130	62	7	3	4	11	Fresno, Calif.	67	42	15	5	4	1	7
Madison, Wis.	42	28	7	5	2	2	5	Glendale, Calif.	30	21	8	1	-	-	2
Milwaukee, Wis.	146	114	21	2	6	3	9	Honolulu, Hawaii	77	57	15	5	-	-	2
Peoria, Ill.	60	35	11	1	-	3	7	Long Beach, Calif.	84	55	14	8	5	1	8
Rockford, Ill.	42	27	8	4	3	2	-	Los Angeles, Calif.	425	277	76	47	17	1	14
South Bend, Ind.	31	24	6	-	-	1	2	Oakland, Calif.	75	43	18	6	2	6	3
Toledo, Ohio	97	70	18	1	4	4	2	Pasadena, Calif.	39	28	8	2	-	1	6
Youngstown, Ohio	89	74	13	-	1	1	1	Portland, Oreg.	110	78	15	10	3	4	7
								Sacramento, Calif.	153	98	39	11	3	2	12
WN CENTRAL	636	455	116	30	17	12	41	San Diego, Calif.	129	90	26	5	7	1	19
Des Moines, Iowa	43	33	3	3	1	1	3	San Francisco, Calif.	178	122	29	19	4	4	11
Duluth, Minn.	22	14	17	-	-	-	1	San Jose, Calif.	169	113	27	15	7	6	16
Kansas City, Kans.	40	21	13	4	1	1	3	Seattle, Wash.	149	96	32	15	5	1	10
Kansas City, Mo.	118	82	20	8	7	1	3	Spokane, Wash.	65	47	12	1	1	4	5
Lincoln, Neb.	30	24	5	-	-	1	4	Tacoma, Wash.	49	34	7	4	1	3	2
Minneapolis, Minn.	63	43	12	3	1	4	4								
Omaha, Neb.	94	73	16	3	3	-	12								
St. Louis, Mo.	111	82	19	7	2	1	8								
St. Paul, Minn.	58	42	14	-	1	1	1								
Wichita, Kans.	57	45	8	2	-	2	2								
TOTAL	12,158	8,185	2,416	827	337	378	640								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fatal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Nutrition Evaluation — Continued

to target populations at highest risk; (3) further identification and assessment of displaced families for targeting food aid, particularly for children and pregnant and lactating women; (4) increased distribution of measles vaccine and oral rehydration solutions to help prevent measles infection and diarrhea, diseases that are important causes of morbidity and mortality in undernourished populations.

Reported by the Government of Burkina Faso; U.S. Agency for International Development, Ouagadougou, Burkina Faso; Office of Foreign Disaster Assistance, U.S. Agency for International Development, Washington, D.C.; International Health Program Office, Div of Nutrition, Div of Health Education, Center for Health Promotion and Education, CDC.

Editorial Note: The rates of acute undernutrition found in these two provinces of Burkina Faso were not as high as those of other countries affected by the 1984-1985 drought, such as Chad and Sudan (4,5). However, 11%-14% of children surveyed were between 80% and 84% of median weight-for-height, a level indicating borderline undernutrition. In contrast, only 3%-7% (depending on height) of the U.S. reference population fall between 80% and 84% of median weight-for-height. These children in this range were probably at high risk of developing acute undernutrition, particularly since the survey was conducted 7-8 months before the expected harvest season, and food resources were rapidly being exhausted.

The investigators were able to sample only the stable populations in the provinces and were not able to measure the nutrition status of children whose families had migrated because of food shortages. Because those latter children would be expected to have a poorer nutritional status than those whose families remained in their villages, the results of this survey are minimal estimates of the severity of undernutrition among all children in the drought-affected areas.

Recommendations resulting from the surveys stressed early provision of food to prevent further undernutrition. However, attention was also given to other causes of morbidity and mortality in drought situations. These included vitamin A deficiency, measles, diarrhea, and scurvy. Although the prevalence of clinically evident vitamin deficiency was low, the risk of deficiencies will increase if local food resources dwindle and the population becomes increasingly dependent on food aid, which consists primarily of grains low in vitamins A and C. Vitamin A deficiency is of particular concern, because it is the major cause of permanent blindness in preschool-aged children in the developing world and is easily prevented by vitamin A supplementation (6).

The prevalence of diarrhea was lower than that reported in the other surveys of drought-affected countries. However, diarrhea still represents an important potential source of morbidity and mortality in an undernourished population (7). Measles is a major cause of mortality in undernourished populations (5). Measles immunization levels were relatively high as a result of a recent nationwide immunization campaign; however, ongoing effort is needed to immunize those not reached by the campaign and those too young for immunization during the campaign.

Continued nutrition surveillance is necessary to help monitor changes in nutrition status and to target those at highest risk. In addition, attention should be given to assessing the nutrition status of children of displaced families and nomads who are at high risk of developing undernutrition during periods of food shortage.

References

1. CDC. Evaluation of drought-related acute undernutrition—Mauritania, 1983. *MMWR* 1984;33:565-7.
2. National Center for Health Statistics. NCHS growth curves for children, birth-18 years. United States. Rockville, Maryland: National Center for Health Statistics, 1977; DHEW publication no. (PHS)78-1650. (Vital and health statistics, series 11; data from the National Health Survey, no. 165).
3. World Health Organization. A growth chart for international use in maternal and child health care. Geneva: World Health Organization, 1978.

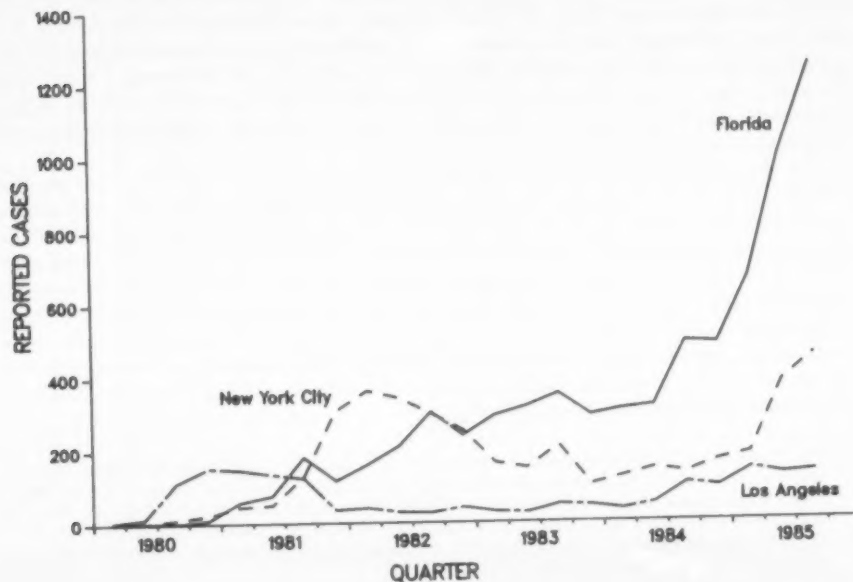
Nutrition Evaluation — Continued

4. CDC. Rapid nutritional and health assessment of the population affected by drought-associated famine—Chad. MMWR 1985;34:665-7.
5. CDC. Unpublished data.
6. de Ville de Goyet C, Seaman J, Geijer U. The management of nutritional emergencies in large populations. Geneva: World Health Organization, 1978.
7. Koster FT, Curlin GC, Aziz KM, Haque A. Synergistic impact of measles and diarrhoea on nutrition and mortality in Bangladesh. Bull WHO 1981;59:901-8.

Current Trends**Penicillinase-Producing *Neisseria gonorrhoeae* —
United States, Florida**

During the first 9 months of 1985, CDC received reports of 6,020 cases of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) among civilians, over twice the 2,973 cases reported for the same period in 1984. For the first time, PPNG has been reported from all 50 states within a given calendar year. Three areas, New York City, Los Angeles, and Florida, accounted for 71% of all cases, and all three experienced large increases in 1985 (Figure 2).

FIGURE 2. Penicillinase-producing *Neisseria gonorrhoeae*, by quarter — Florida, New York City, Los Angeles, calendar years 1980-1984 and January-September 1985



PPNG — Continued

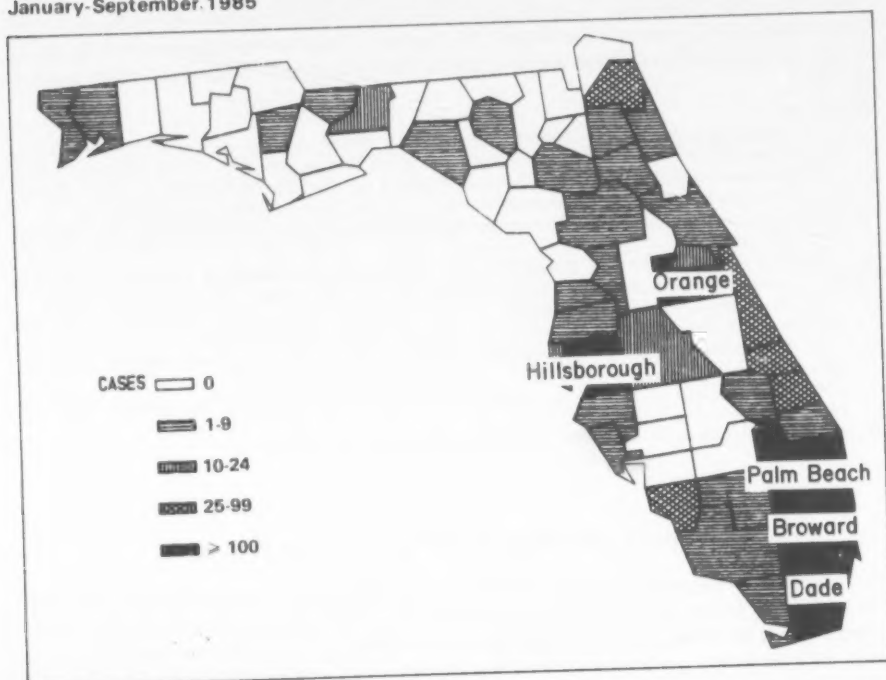
In New York City, reported PPNG has increased from 311 cases during the first 9 months of 1984 to 1,015 cases during the same period in 1985 (226%). In Los Angeles, PPNG increased from 179 cases in 1984 to 389 cases in 1985 (117%).

In Florida, PPNG increased from 1,109 cases in 1984 to 2,898 cases in 1985 (161%). PPNG accounted for 7% of all reported gonorrhea morbidity in Florida and is concentrated in the southernmost portion of the state. The number of cases has progressively increased since 1981, despite a temporary plateau during 1983-1984. The five counties reporting the most cases were: Dade (1,740), Palm Beach (266), Broward (220), Orange (143), and Hillsborough (124) (Figure 3). PPNG has spread slowly northernward during 1985, with 36 of 67 Florida counties reporting PPNG cases.

PPNG, as a percentage of all reported gonorrhea, was highest in Dade County, a metropolitan area of 1.8 million people that includes the city of Miami. During the first 9 months of 1985, 35% of all reported gonorrhea in Dade County was attributable to PPNG. This proportion increased from 25% of cases in January to over 51% in September.

PPNG patients were predominantly male (67%) and black (86%). However, these proportions are not appreciably different from patients with penicillin-sensitive *N. gonorrhoeae* and may represent the patient population seen in public health clinics. Less than 10% of total gonorrhea morbidity (including PPNG) in Dade County is reported by private physicians and hospital emergency rooms. Interviews with infected patients have suggested that nonprescription use

FIGURE 3. Penicillinase-producing *Neisseria gonorrhoeae* cases, by county — Florida, January-September, 1985



PPNG — Continued

of antibiotics and drug-related, part-time prostitution have contributed to this epidemic. Case-control studies to determine the influence of these factors are being implemented.

Reported by R Morgan, MD, Dade County Dept of Public Health, Preventive Health Svcs, JJ Witte, MD, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs; Epidemiology Research Br, Program Svcs Br, Div of Sexually Transmitted Diseases, Center for Prevention Svcs, CDC.

Editorial Note: Since the introduction of PPNG into the United States in 1976, outbreaks have been reported from several areas, including New York City (1), Los Angeles (2), Shreveport, Louisiana (3), and Washington state (4). The epidemic situation in south Florida, however, is without precedent in the United States. Although PPNG rates comparable to those reported here have been observed in Southeast Asia (5), this is the first time that absolute and proportional rates of this magnitude have been seen in the United States.

The number of PPNG cases reported in Florida may substantially underestimate the disease. The low number of reported gonorrhea cases from the private health sector is probably due to underreporting. Moreover, transmission of disease by prostitutes and the inappropriate use of antibiotics have been cited as contributing factors to the south Florida epidemic, as well as in some nations of Southeast Asia (6).

In response to this outbreak, the Florida Sexually Transmitted Diseases Control Program plans to revise certain aspects of clinical and laboratory services and disease intervention (contact-tracing) procedures. Educational programs for both health professionals and the general public will be initiated. On a national level, CDC reemphasizes the necessity of testing all gonococcal isolates for β -lactamase production (7) and suggests that all patients with a presumptive diagnosis of gonorrhea, who have recently traveled to Florida, Los Angeles, New York City, or Southeast Asia, be treated for PPNG according to treatment schedules published in the 1985 STD Treatment Guidelines (8). Copies of these guidelines can be obtained by writing to Technical Information Services, Center for Prevention Services, CDC, Atlanta, Georgia 30333.

References

1. CDC. Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) number of reported cases United States: calendar years 1976-1983. Sexually Transmitted Disease Statistics, 1983 Atlanta Georgia: U.S. Department of Health and Human Services, Public Health Service, 1985;133-5.
2. CDC. Penicillinase-producing *Neisseria gonorrhoeae*—Los Angeles. MMWR 1983;32:181-3.
3. CDC. An outbreak of penicillinase-producing *Neisseria gonorrhoeae*—Shreveport, Louisiana. MMWR 1980;29:241-3.
4. Handsfield HH, Sandström EG, Knapp JS, et al. Epidemiology of penicillinase-producing *Neisseria gonorrhoeae* infections: analysis by auxotyping and serogrouping. N Engl J Med 1982;306:950-4.
5. Brown S, Warnnissorn T, Biddle J, Panikabutra K, Traisupa A. Antimicrobial resistance of *Neisseria gonorrhoeae* in Bangkok: is single-drug therapy passé? Lancet 1982;ii:1366-8.
6. CDC. Penicillinase-producing *Neisseria gonorrhoeae*—United States, worldwide. MMWR 1979;28:85-7.
7. CDC. Infections due to penicillinase-producing *Neisseria gonorrhoeae*—Florida. MMWR 1981;30:245-7.
8. CDC. STD treatment guidelines. MMWR 1985;34(suppl 4):75S-109S.

Update: Influenza Activity — United States

In Alaska, widespread outbreaks of influenza-like illness were reported for the fifth consecutive week (November 30, through December 28, 1985). Fifty-one type A(H3N2) and 40 type B influenza viruses have now been isolated this season. In Hawaii, type A(H3N2) viruses were isolated from six students in a Honolulu school, where a cluster of influenza-like illnesses

Influenza — Continued

occurred in mid-December. One type A(H1N1) virus had been isolated in Hawaii from a sporadic case in November (7).

California, Montana, Nevada, Pennsylvania, and Wisconsin have reported their first influenza virus isolations of the season from residents whose illnesses occurred from mid- to late December. Six type B viruses were isolated from patients near Philadelphia, Pennsylvania; five type B viruses were isolated from patients in Milwaukee, Wisconsin; and type B viruses were isolated from patients in Berkeley, California, and Helena, Montana. Type A(H3N2) virus was isolated from a patient in Las Vegas, Nevada.

Nationwide, weekly reports of influenza-like illnesses seen in November and December* have been in the range typically noted in the absence of extensive outbreaks. The percentage of deaths associated with pneumonia and influenza reported from the 121 cities has also remained in the range expected in the absence of extensive outbreaks through November and December.

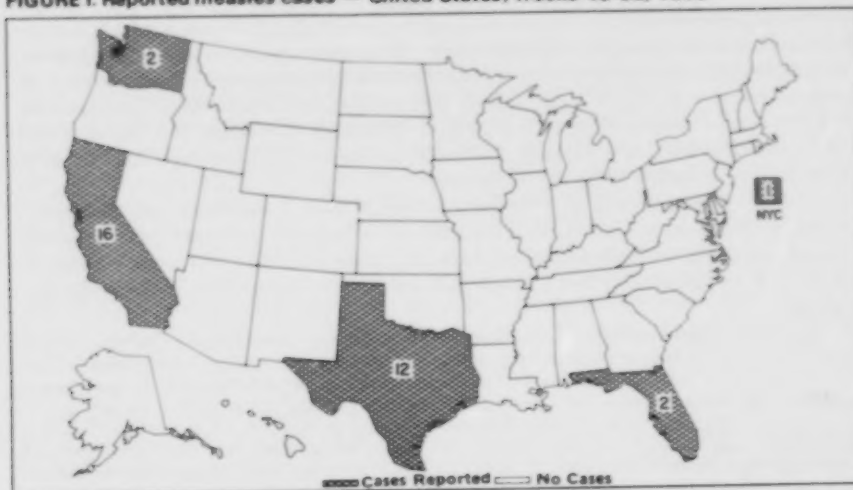
Reported by D Ritter, Northern Regional Laboratory, JP Mittleman, MD, State Epidemiologist, Div of Public Health, Alaska Dept of Health and Social Svcs; G Kobayashi, Laboratories Br, C Ibara, S Terrell-Perica, MPH, AP Liang, MD, State Epidemiologist, Hawaii Dept of Health; J Schlieble, PhD, Viral Disease Laboratory, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; J Brinker, Microbiology Laboratory, J Gedrose, RN, State Epidemiologist, Montana State Dept of Health and Environmental Sciences; R Reichelderfer, PhD; J Clark, Sunrise Hospital, Las Vegas, GE Reynolds, MD, State Epidemiologist, Nevada State Dept of Human Resources; C Schultheis, MD, King of Prussia, B Kleeger, PhD, State Public Health Laboratory, EJ Witte, VMD, State Epidemiologist, Pennsylvania State Dept of Health; G Sedmak, PhD, Milwaukee Health Dept, JP Davis, MD, State Epidemiologist, Wisconsin State Dept of Health and Social Svcs; participating physicians of the American Academy of Family Physicians; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Reference

1. CDC Update: influenza activity—United States. MMWR 1985;34:741-2, 747.

*These illnesses are reported by physician members of the American Academy of Family Physicians Research Panel, who serve as sentinels for influenza.

FIGURE 1. Reported measles cases — United States, weeks 49-52, 1985



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21036 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

**BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26**

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **

- 17 Update: Acquired Immunodeficiency Syndrome — United States
- 21 Need for Malaria Prophylaxis by Travelers to Areas With Chloroquine-Resistant *Plasmodium falciparum*
- 28 Update: Influenza Activity — United States, Worldwide
- 29 Changes in Premature Mortality — United States, 1983-1984

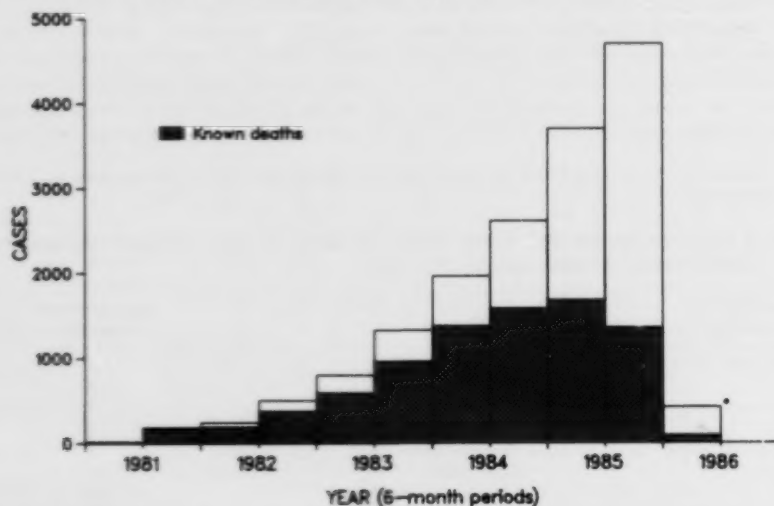
Current Trends

Update: Acquired Immunodeficiency Syndrome — United States

Between June 1, 1981, and January 13, 1986, physicians and health departments in the United States notified CDC of 16,458 patients (16,227 adults and 231 children) meeting the acquired immunodeficiency syndrome (AIDS) case definition for national reporting (1-3). Of these, 8,361 (51% of the adults and 59% of the children) are reported to have died, including 71% of patients diagnosed before July 1984. The number of cases reported each 6-month period continues to increase (Figure 1), although not exponentially, as evidenced by the lengthening case-doubling times (Table 1). Cases have been reported from all 50 states, the District of Columbia, and three U.S. territories.

Adult patients. Among adult AIDS patients, 60% were white; 25%, black; and 14%, Hispanic. Ninety percent were 20-49 years old, and 93% were men. Although the race, age, and sex distribution of adult AIDS patients has remained relatively constant over time, significant changes have occurred in the distribution of specific diseases reported. *Pneumocystis*

FIGURE 1. Acquired immunodeficiency syndrome cases and known deaths, by 6-month period of report to CDC — United States, through January 13, 1986



*Data incomplete.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009

AIDS - Continued

carinii pneumonia (PCP) continues to be the most common opportunistic infection reported among AIDS patients, accounting for 43% of reported opportunistic diseases; incidence of PCP continues to increase relative to other reported opportunistic diseases among AIDS patients ($p < 0.0001$). PCP accounted for 35% of the diagnosed AIDS-associated diseases before January 1984 and 47% of those diagnosed from January 1985 to December 1985. The increase in PCP was associated with a decrease in Kaposi's sarcoma (KS), the second most common AIDS-associated opportunistic disease. Before December 1984, KS accounted for 21% of reported diagnoses; between January 1985 and December 1985, KS accounted for 13% of reported diagnoses. Among all AIDS patients, 63% have been diagnosed with PCP; 24%, with KS; 14%, with candida esophagitis; 7%, with cytomegalovirus (CMV) infections; 7%, with cryptococcosis; 4%, with chronic herpes simplex; 4%, with cryptosporidiosis; 3%, with toxoplasmosis; and 3%, with other opportunistic diseases only. These values tend to underestimate the number of diseases diagnosed in a given patient, because health-care providers frequently do not provide follow-up information on diseases that occur after the case has initially been reported.

A total of 15,243 (94%) AIDS patients can be placed in groups* that suggest a possible means of disease acquisition: men with homosexual or bisexual orientation who have histories of using intravenous (IV) drugs (8% of cases); homosexual or bisexual men who are not known IV drug users (65%); heterosexual IV drug users (17%); persons with hemophilia (1%); heterosexual sex partners of persons with AIDS or at risk for AIDS (1%); and recipients of transfused blood or blood components (2%). The remaining 984 (6%) have not been classified by recognized risk factors for AIDS.

AIDS patients reported as not belonging to recognized risk groups are investigated by local health officials to determine if possible risk factors exist. Since 1981, 1,206 AIDS patients reported to CDC were initially identified on the original case report form as not belonging to a risk group. Of these individuals, 398 were from countries where heterosexual transmission may account for many AIDS cases. Of the remaining 808, information was incomplete on 178 patients due to: death (116), refusal to be interviewed (24), or loss to follow-up (38). Two hundred ninety-seven cases are still under investigation. Interviews or other follow-up information were available on the remaining 333 patients. Based on this information, risk factors were ultimately identified in 197 (59%) individuals; 25 (8%) were found not to meet the criteria of the surveillance definition for AIDS and no risk was identified on 111 (33%) AIDS patients. In interviews of the 111 patients for whom no risk was identified, 39 (35%) gave

*Patient groups are hierarchically ordered; patients with multiple risk factors are tabulated only in the group listed first.

TABLE 1. Acquired immunodeficiency syndrome cases, by date of report and doubling time — United States, through January 13, 1986

Cumulative cases reported	Date	Doubling time (months)
129	September 1981	—
257	February 1982	5
514	July 1982	5
1,029	January 1983	6
2,057	August 1983	7
4,115	April 1984	8
8,229	February 1985	10
16,458	January 1986	11

AIDS — Continued

histories of gonorrhea and/or syphilis, indicating that these AIDS patients were at risk for other sexually transmitted infections. Of 57 men interviewed, 15 (26%) gave histories of sexual contact with a female prostitute.

Reported cases have increased in all patient groups (Table 2). The relative proportion of AIDS cases among most risk groups has remained stable (Table 3). The proportion of AIDS cases associated with blood transfusions has increased from 1% to 2% ($p = 0.015$). Due to the long period between infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) and development of AIDS, the impact of serologic screening of blood donations and deferral of those at increased risk cannot be expected to be reflected yet in national AIDS reporting. In the groups not classified by recognized risk factors, the proportion of AIDS patients born outside the United States has declined from 4% to 2% ($p < 0.0001$).

Pediatric patients. Among 231 AIDS patients under 13 years old, 19% were white; 60%, black; and 20%, Hispanic. Fifty-five percent were male. Fifty-eight percent were diagnosed with PCP; 19%, with disseminated CMV; 15%, with candida esophagitis; 6%, with cryptosporidiosis; 4%, with KS; and 22%, with other opportunistic diseases only. One hundred seventy-four (75%) pediatric patients came from families in which one or both parents had AIDS or were at increased risk for developing AIDS; 33 (14%) had received transfusions of blood or blood components before onset of illness, and 11 (5%) had hemophilia. Risk-factor information on the parents of the 13 (6%) remaining cases is incomplete. Although 57% of pediatric patients have been reported within the last year, 72% were actually diagnosed before 1985. Pediatric patients have been reported from 23 states, Washington, D.C., and Puerto Rico; cases reported per state ranged from one to 91 (median three). Seventy-five percent of the cases have been reported from New York, Florida, New Jersey, and California.

Reported by State and Territorial Epidemiologists; AIDS Program, Center for Infectious Diseases, CDC.

TABLE 2. Acquired immunodeficiency syndrome cases reported by year and yearly percent increases, by patient group — United States, through January 13, 1986

Patient group	Before 1/14/82	1/14/82- 1/13/83	1/14/83- 1/13/84	1/14/84- 1/13/85	1/14/85- 1/13/86	Total
	No.	No. (% Inc)*	No. (% Inc)*	No. (% Inc)*	No. (% Inc)*	
Adult						
Homosexual/bisexual men and IV drug users	16	66 (312.5)	211 (219.7)	418 (98.1)	599 (43.3)	1,310
Homosexual/bisexual men not IV drug users	178	473 (165.7)	1,341 (183.5)	2,939 (119.2)	5,669 (92.9)	10,600
IV drug users	22	138 (527.3)	392 (184.1)	785 (100.3)	1,429 (82.0)	2,766
Hemophilia patients	0	7 (0.0)	10 (42.9)	38 (280.0)	69 (81.6)	124
Heterosexual contacts	1	10 (900.0)	18 (80.0)	53 (194.4)	100 (88.7)	182
Transfusion recipients	0	6 (0.0)	28 (366.7)	56 (100.0)	171 (205.4)	261
None of the above/other						
No identified risks,	3	28 (833.3)	76 (171.4)	131 (72.4)	348 (165.6)	586
Born outside U.S.†	7	48 (585.7)	85 (77.1)	114 (34.1)	144 (26.3)	398
Subtotal	227	776 (241.9)	2,161 (178.5)	4,534 (109.8)	8,529 (88.1)	16,227
Pediatric	0	16 (0.0)	35 (118.8)	48 (37.1)	132 (175.0)	231
TOTAL	227	792 (248.9)	2,196 (177.3)	4,582 (108.7)	8,661 (89.0)	16,458

*Percent increase.

†Includes persons born in countries in which most AIDS cases have not been associated with known risk factors.

AIDS — Continued

Editorial Note: The incidence of AIDS continues to increase. In 1982, 747 cases were reported; in 1983, 2,124 were reported (a 184% increase); in 1984, 4,569 were reported (a 115% increase); and in 1985, 8,406 were reported (an 84% increase). From analyses of past trends, further increases are expected for 1986; however, the percentage increase in 1986 is likely to be smaller than that noted in 1985.

The number of AIDS cases that have not been classified into previously identified risk groups is not increasing proportionately faster than the number of cases in identified risk groups. Past experience would suggest that many cases currently under investigation will be reclassified.

Currently reported AIDS cases have resulted from HTLV-III/LAV exposure up to 7 years before diagnosis (4); the possibility of longer incubation periods cannot be excluded. Since HTLV-III/LAV infection persists in an individual, persons previously infected continue to remain at risk for developing AIDS. Due to the long period between infection and development of AIDS, transfusion-associated cases are expected to continue (4). However, voluntary donor deferral by those at increased risk for AIDS and serologic testing of donated blood and plasma for HTLV-III/LAV antibody—implemented in March 1983 and spring 1985, respectively—have greatly reduced the potential for HTLV-III/LAV transmission through transfusion (4-6).

The increase in previously diagnosed pediatric AIDS cases reported within the past year reflects improved reporting as well as inclusion in the case definition of histologically confirmed

TABLE 3. Distribution by patient group of reported acquired immunodeficiency syndrome cases, by date of report — United States, through January 13, 1986

Patient group	Before 1/14/84		1/14/84- 1/13/85		1/14/85- 1/13/86		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Adult								
Homosexual/bisexual men and IV drug users	293	(9.3)	418	(9.2)	599	(7.0)	1,310	(8.1)
Homosexual/bisexual men not IV drug users	1,992	(63.0)	2,939	(64.8)	5,669	(66.5)	10,600	(65.3)
IV drug users	552	(17.4)	785	(17.3)	1,429	(16.8)	2,766	(17.0)
Hemophilia patients	17	(0.5)	38	(0.8)	69	(0.8)	124	(0.8)
Heterosexual contacts	29	(0.9)	53	(1.2)	100	(1.2)	182	(1.1)
Transfusion recipients	34	(1.1)	56	(1.2)	171	(2.0)	261	(1.6)
None of the above: other								
No identified risks	107	(3.4)	131	(2.9)	348	(4.1)	586	(3.6)
Born outside U.S.*	140	(4.4)	114	(2.5)	144	(1.7)	398	(2.5)
Subtotal	3,164	(100.0)	4,534	(100.0)	8,529	(100.0)	16,227	(100.0)
Pediatric								
Parent with AIDS or at increased risk for AIDS	38	(74.5)	40	(83.3)	97	(73.5)	175	(75.8)
Hemophilia patients	3	(5.9)	1	(2.1)	7	(5.3)	11	(4.8)
Transfusion recipients	6	(11.8)	6	(12.5)	21	(15.9)	33	(14.3)
None of the above: other	4	(7.8)	1	(2.1)	7	(5.3)	12	(5.2)
Subtotal	51	(100.0)	48	(100.0)	132	(100.0)	231	(100.0)
TOTAL	3,215	(100.0)	4,582	(100.0)	8,661	(100.0)	16,458	(100.0)

*Includes persons born in countries in which most AIDS cases have not been associated with known risk factors.

AIDS — Continued

diagnoses of chronic lymphoid interstitial pneumonitis in children under 13 years of age (3). Since most pediatric AIDS cases result from perinatal transmission of HTLV-III/LAV, the race/ethnicity and geographic distribution of pediatric AIDS patients is similar to that of reported AIDS cases among adult females.

Planned prospective studies of incidence and prevalence of HTLV-III/LAV infection should determine whether current reports of patients meeting the AIDS case definition for national reporting accurately reflect the distribution of infected persons. Persons meeting the AIDS case definition are only a small percentage of all persons infected with HTLV-III/LAV (7). CDC uses the existing case definition for surveillance purposes, because other manifestations of HTLV-III/LAV infection are less specific and less likely to be consistently reported nationally.

References

1. CDC. Update: acquired immunodeficiency syndrome (AIDS)—United States. MMWR 1984;32: 688-91.
2. Selik RM, Haverkos HW, Curran JW. Acquired immune deficiency syndrome (AIDS) trends in the United States, 1978-1982. Am J Med 1984;76:493-500.
3. CDC. Revision of the case definition of acquired immunodeficiency syndrome for national reporting—United States. MMWR 1985;34:373-5.
4. Peterman TA, Jaffe HW, Feorino PM, et al. Transfusion-associated acquired immunodeficiency syndrome in the United States. JAMA 1985;254:2913-7.
5. CDC. Prevention of acquired immune deficiency syndrome (AIDS): report of inter-agency recommendations. MMWR 1983;32:101-4.
6. CDC. Update: Public Health Service workshop on human T-lymphotropic virus type III antibody testing—United States. MMWR 1985;34:477-8.
7. Curran JW, Morgan WM, Hardy AM, Jaffe HW, Darrow WW, Dowdle WR. The epidemiology of AIDS: current status and future prospects. Science 1985;229:1362-7.

Need for Malaria Prophylaxis by Travelers to Areas With Chloroquine-Resistant *Plasmodium falciparum*

On April 12, 1985, new recommendations for malaria prophylaxis were published by CDC in response to evidence that weekly use of pyrimethamine/sulfadoxine (Fansidar®) for malaria prophylaxis was associated with fatal cutaneous reactions in 1/18,000 to 1/26,000 users (1). These revised recommendations emphasized the weekly use of chloroquine or amodiaquine as the mainstay of chemoprophylaxis and suggested that the weekly prophylactic use of Fansidar® be limited to travelers at very high risk of exposure to chloroquine-resistant *Plasmodium falciparum*, mainly longer-term travelers to eastern and central Africa. It was further recommended that short-term (3 weeks or less) travelers to areas with chloroquine-resistant *P. falciparum* carry three tablets (adult dose) of Fansidar® to take presumptively in the event of a febrile illness when professional medical care is not readily available. Finally, the importance of personal protection from mosquito contact by use of insect repellants, insect sprays, nets, and screens was stressed.

To date, 60 cases of *P. falciparum* infection have been reported to CDC, with onset of illness in 1985 among U.S. travelers who acquired their infection in Kenya, where chloroquine-resistant *P. falciparum* is widely prevalent. Review of the preventive measures taken by these 60 persons revealed that chemoprophylaxis had been used by 46 (77%). Thirty-nine (65%) persons had used chloroquine alone weekly for prophylaxis. Weekly prophylaxis with Fansidar® and chloroquine had been used by seven (12%). Of concern is that only four (24%) of 17 malaria patients investigated who had traveled to Kenya after April 1985 were aware of the

Malaria Prophylaxis — Continued

recommendation for presumptive treatment with Fansidar®. Furthermore, only seven (41%) of these 17 had used insect repellants.

The current recommendations are more complicated than before because they reflect an effort to balance the risks and benefits of prophylactic regimens for travelers to various areas. It is essential that health-care providers and travelers consider the possibility that a febrile illness may be malaria, even when chloroquine prophylaxis has been used. Further, it is important that the three-tablet adult treatment dosage of Fansidar® and the indications for its use are explained thoroughly to travelers because responsibility is placed on them to recognize a potential malaria infection and, if necessary, treat themselves while abroad.

The current CDC guidelines for malaria prophylaxis for travelers (1,2) contain detailed recommendations for travelers to different destinations, taking into account the risk of malaria infection. Health-care providers are encouraged to report all malaria patients to state and local health departments, with particular attention to travel histories and chemoprophylaxis. CDC continues to monitor both the level of implementation of the current recommendations and their effect on the occurrence of *P. falciparum* infections in U.S. travelers.

(Continued on page 27)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	2nd Week Ending			Cumulative: 2nd Week Ending		
	Jan 11, 1986	Jan 12, 1985	Median 1981-1985	Jan 11, 1986	Jan 12, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	330	88	N	507	153	N
Aseptic meningitis	93	81	89	153	127	157
Encephalitis: Primary (arthropod-borne & unsp.)	17	10	13	25	21	26
Post-infectious	-	1	-	-	5	2
Gonorrhea: Civilian	14,607	14,845	18,014	25,784	25,700	38,179
Military	278	378	648	428	568	1,017
Hepatitis: Type A	285	213	329	543	546	630
Type B	340	355	355	663	621	621
Non A, Non B	50	63	N	94	110	N
Unspecified	73	80	127	132	120	217
Legionellosis	13	14	N	19	21	N
Leprosy	13	-	2	13	5	6
Malaria	6	9	9	13	13	21
Measles: Total*	27	7	7	27	15	16
Indigenous	25	3	N	25	10	N
Imported	2	4	N	2	5	N
Meningococcal infections: Total	56	36	54	89	65	95
Civilian	56	36	54	88	65	95
Military	-	-	-	1	-	-
Mumps	47	49	75	56	77	121
Pertussis	25	32	19	47	39	31
Rubella (German measles)	5	3	12	6	9	26
Syphilis (Primary & Secondary): Civilian	357	412	581	634	686	1,137
Military	6	6	6	7	9	16
Toxic Shock syndrome	4	8	N	9	12	N
Tuberculosis	231	234	311	372	375	563
Typhoid fever	3	7	1	3	7	3
Typhus fever, tick-borne (RMSF)	6	2	11	7	5	15
Rabies, animal	2	1	1	2	1	3
	99	70	77	119	122	150

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986	Cum 1986
Anthrax	-	4
Botulism: Foodborne	-	-
Infant (Calf 1)	2	-
Other	-	-
Brucellosis (Ala 1)	1	-
Cholera	-	-
Congenital rubella syndrome	1	1
Congenital syphilis, ages < 1 year	-	-
Diphtheria	-	-
Leptospirosis (Hawaii 2)	-	-
Plague	-	-
Poliomyelitis, Paralytic	-	-
Psittacosis	-	-
Rabies, human	-	-
Tetanus	-	-
Trichinosis	-	-
Typhus fever, flea-borne (endemic, murine)	-	-

*One of the 27 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
January 11, 1986 and January 12, 1985 (2nd Week)

Reporting Area	AIDS	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious	Cum 1986	Cum 1985	A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	507	93	25	-	25,784	25,700	285	340	50	73	13	13
NEW ENGLAND	13	7	-	-	516	981	6	34	-	3	-	-
Maine	-	1	-	-	26	35	-	2	-	-	-	-
N.H.	-	1	-	-	10	25	-	-	-	-	-	-
Vt.	-	-	-	-	7	9	-	-	-	-	-	-
Mass.	9	2	-	-	172	249	6	28	-	3	-	-
R.I.	2	3	-	-	55	91	-	4	-	-	-	-
Conn.	2	-	-	-	246	552	-	-	-	-	-	-
MID ATLANTIC	210	28	4	-	4,632	3,072	36	38	4	4	-	-
Upstate N.Y.	17	12	2	-	279	-	22	9	1	2	-	-
N.Y. City	144	1	1	-	3,102	1,319	-	1	-	-	-	-
N.J.	33	7	-	-	308	363	4	8	1	1	-	-
Pa.	16	8	1	-	943	1,390	9	20	2	1	-	-
E. N. CENTRAL	23	10	7	-	3,626	2,870	10	25	2	1	4	-
Ohio	18	4	5	-	911	943	3	6	-	-	-	-
Ind.	4	-	-	-	565	249	3	-	-	-	-	-
Ill.	-	-	-	-	511	697	-	-	-	-	-	-
Mich.	1	6	2	-	1,379	906	4	19	2	1	4	-
Wis.	-	-	-	-	260	75	-	-	-	-	-	-
W. N. CENTRAL	10	1	-	-	1,505	1,651	12	8	1	-	2	-
Minn.	5	-	-	-	289	166	-	-	-	-	-	-
Iowa	-	-	-	-	216	145	1	-	-	-	1	-
Mo.	3	-	-	-	690	761	2	2	1	-	-	-
N. Dak.	1	-	-	-	22	7	-	-	-	-	-	-
S. Dak.	-	-	-	-	21	35	7	-	-	-	1	-
Nebr.	-	-	-	-	15	120	1	3	-	-	-	-
Kans.	1	1	-	-	252	417	1	3	-	-	-	-
S. ATLANTIC	48	18	5	-	4,814	5,942	9	47	12	4	2	-
Del.	3	2	-	-	130	123	2	1	1	1	-	-
Md.	8	7	3	-	897	884	3	5	5	1	-	-
D.C.	9	1	-	-	511	461	-	6	-	-	-	-
Va.	-	2	-	-	525	686	-	4	1	1	2	-
W. Va.	-	-	-	-	89	111	1	2	-	1	-	-
N.C.	2	3	2	-	673	902	1	14	-	-	-	-
S.C.	2	-	-	-	837	921	-	6	2	-	-	-
Ga.	-	1	-	-	-	-	2	6	2	-	-	-
Fla.	24	-	-	-	1,153	1,854	-	3	1	-	-	-
E. S. CENTRAL	3	15	4	-	2,140	2,075	3	59	5	1	1	-
Ky.	3	1	-	-	289	213	1	4	1	-	-	-
Tenn.	-	2	-	-	908	1,107	1	20	4	-	-	-
Ala.	-	12	4	-	302	555	1	35	-	1	1	-
Miss.	-	-	-	-	643	200	-	-	-	-	-	-
W. S. CENTRAL	51	-	-	-	3,045	4,177	-	3	-	2	-	-
Ark.	4	-	-	-	288	408	-	3	-	-	-	-
La.	4	-	-	-	669	802	-	-	-	-	-	-
Okla.	2	-	-	-	444	465	-	-	-	1	-	-
Tex.	41	-	-	-	1,644	2,502	-	-	-	1	-	-
MOUNTAIN	7	3	1	-	893	939	22	20	6	4	1	-
Mont.	-	-	-	-	29	34	2	1	-	1	-	-
Idaho	1	-	-	-	-	21	-	1	-	-	-	-
Wyo.	-	-	-	-	18	16	-	-	-	1	-	-
Colo.	2	1	-	-	266	304	3	3	-	1	-	-
N. Mex.	-	-	-	-	74	122	3	6	2	-	-	-
Ariz.	1	2	1	-	324	236	7	5	4	1	1	-
Utah	-	-	-	-	44	35	1	1	-	-	-	-
Nev.	3	-	-	-	138	171	6	3	-	-	-	-
PACIFIC	142	13	4	-	4,613	4,013	187	106	20	54	3	13
Wash.	6	4	-	-	147	271	20	16	7	2	-	-
Oreg.	2	-	-	-	150	224	38	2	2	-	-	-
Calif.	132	9	3	-	4,167	3,394	126	84	11	52	3	13
Alaska	-	-	1	-	90	75	-	-	-	-	-	-
Hawaii	2	-	-	-	59	49	3	4	-	-	-	-
Guam	-	U	-	-	-	6	U	U	U	U	U	-
P.R.	-	2	-	-	60	23	1	9	-	1	-	-
V.I.	-	U	-	-	-	13	U	U	U	U	U	-
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	-
Amer. Samoa	-	U	-	-	-	-	U	U	U	U	U	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 11, 1986 and January 12, 1985 (2nd Week)

Reporting Area	Malaria	Measles (Rubella)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986
		Cum 1986	1986	Cum 1986	1986										
UNITED STATES	13	25	25	2	2	15	89	47	56	25	47	39	5	6	9
NEW ENGLAND	-	-	-	-	-	-	7	2	2	2	4	-	-	-	1
Maine	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-
NH	-	-	-	-	-	-	-	1	1	2	2	-	-	-	1
VT	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Mass	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
RI	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Conn	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
MID ATLANTIC	2	-	-	1	1	-	15	5	5	12	14	2	1	1	4
Upstate N.Y.	-	-	-	1	1	-	-	2	2	8	8	1	1	1	-
N.Y. City	1	-	-	-	-	-	8	-	-	-	-	-	-	-	-
N.J.	-	-	-	-	-	-	2	2	2	-	-	-	-	-	3
Pa	1	-	-	-	-	-	5	1	1	4	6	-	-	-	1
E N CENTRAL	-	-	-	-	-	9	9	28	28	-	1	18	-	-	-
Ohio	-	-	-	-	-	-	5	-	-	-	-	3	-	-	-
Ind	-	-	-	-	-	-	1	-	-	-	-	8	-	-	-
Ill	-	-	-	-	-	-	-	23	23	-	-	-	-	-	-
Mich	-	-	-	-	-	-	3	3	3	-	1	-	-	-	-
Wis	-	-	-	-	-	9	-	-	-	-	7	-	-	-	-
W N CENTRAL	-	20	20	-	-	-	5	4	5	2	6	1	-	-	-
Minn	-	-	-	-	-	-	-	-	-	1	3	-	-	-	-
Iowa	-	-	-	-	-	-	1	-	1	-	1	-	-	-	-
Mo	-	-	-	-	-	-	4	1	1	-	-	-	-	-	-
N Dak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S Dak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans	-	20	20	-	-	-	-	3	3	1	2	1	-	-	-
S ATLANTIC	2	-	-	-	-	-	9	6	9	1	8	2	-	-	1
Del	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va	2	-	-	-	-	-	1	1	3	-	2	-	-	-	-
W Va	-	-	-	-	-	-	-	4	5	-	-	-	-	-	-
N.C.	-	-	-	-	-	-	4	-	-	-	2	1	-	-	-
Ga	-	-	-	-	-	-	4	1	1	1	1	-	-	-	1
Fla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E S CENTRAL	-	-	-	-	-	-	11	2	2	2	3	-	-	1	-
Ky	-	-	-	-	-	-	6	2	2	1	1	-	-	1	-
Tenn	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-
Ala	-	-	-	-	-	-	4	-	-	1	1	-	-	-	-
Miss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W S CENTRAL	-	-	-	-	-	-	2	-	-	-	-	3	-	-	-
Ark	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
La	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okla	-	-	-	-	-	-	2	N	N	-	-	-	-	-	-
Tex	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOUNTAIN	-	-	-	-	-	1	7	-	3	1	4	1	-	-	-
Mont	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
N Mex	-	-	-	-	-	-	2	N	N	1	1	1	-	-	-
Ariz	-	-	-	-	-	-	1	-	-	2	-	-	-	-	-
Utah	-	-	-	-	-	-	1	-	1	-	2	-	-	-	-
Nev	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
PACIFIC	9	5	5	1	1	5	24	2	4	5	10	12	4	4	3
Wash	-	-	-	-	-	1	7	-	-	3	5	-	-	-	-
Oreg	-	-	-	-	-	-	3	N	N	-	-	-	-	-	-
Calif	9	5	5	1	1	4	13	2	4	2	5	12	4	4	3
Alaska	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guam	-	U	-	U	-	7	-	U	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	7	-	-	1	-	-	-	-	-	-
V.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Pac. Trust Terr	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International ‡ Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 11, 1986 and January 12, 1985 (2nd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	634	686	4	372	375	3	7	2	119
NEW ENGLAND	15	15	1	9	15	-	1	1	-
Maine	-	-	-	1	1	-	-	-	-
N.H.	-	-	-	-	3	-	-	-	-
Vt.	-	-	-	1	-	-	-	-	-
Mass.	6	7	1	-	9	-	1	1	-
R.I.	-	-	-	-	-	-	-	-	-
Conn.	9	8	-	7	2	-	-	-	-
MID ATLANTIC	74	78	-	83	101	-	2	-	11
Upstate N.Y.	1	-	-	10	5	-	-	-	3
N.Y. City	57	57	-	33	62	-	2	-	-
N.J.	13	18	-	23	-	-	-	-	-
Pa.	3	3	-	17	34	-	-	-	8
E.N. CENTRAL	8	29	1	39	43	-	2	-	2
Ohio	-	3	1	7	14	-	-	-	-
Ind.	8	4	-	-	1	-	-	-	-
Ill.	-	13	-	27	28	-	-	-	-
Mich.	-	6	-	-	-	-	2	-	1
Wis.	-	3	-	5	-	-	-	-	1
W.N. CENTRAL	6	9	1	11	6	3	-	-	6
Minn.	1	-	-	1	-	-	-	-	-
Iowa	2	1	-	-	4	1	-	-	5
Mo.	1	6	-	2	2	-	-	-	-
N. Dak.	2	-	-	1	-	-	-	-	1
S. Dak.	-	-	1	-	1	-	-	-	-
Nebr.	-	1	-	-	1	-	-	-	-
Kans.	-	1	-	7	1	-	-	-	-
S. ATLANTIC	160	148	-	70	49	-	-	-	23
Del.	-	2	-	-	1	-	-	-	-
Md.	17	19	-	7	3	-	-	-	14
D.C.	7	5	-	6	4	-	-	-	-
Va.	26	10	-	-	-	-	-	-	-
W. Va.	1	-	-	-	7	-	-	-	1
N.C.	19	28	-	17	4	-	-	-	-
S.C.	38	22	-	8	14	-	-	-	2
Ge.	-	-	-	-	-	-	-	-	6
Fla.	52	62	-	32	16	-	-	-	-
E.S. CENTRAL	40	72	-	40	37	-	-	1	3
Ky.	3	2	-	4	8	-	-	-	-
Tenn.	18	20	-	3	10	-	-	-	-
Ala.	19	19	-	33	19	-	-	1	3
Miss.	-	31	-	-	-	-	-	-	-
W.S. CENTRAL	168	161	-	15	10	-	-	-	8
Ark.	10	10	-	9	-	-	-	-	1
La.	33	39	-	-	8	-	-	-	-
Okla.	-	2	-	6	-	-	-	-	1
Tex.	125	110	-	-	2	-	-	-	6
MOUNTAIN	14	35	1	9	5	-	-	-	52
Mont.	-	-	-	-	-	-	-	-	22
Idaho	-	-	1	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	26
Colo.	8	6	-	-	-	-	-	-	-
N. Mex.	-	-	-	2	-	-	-	-	1
Ariz.	6	29	-	3	4	-	-	-	3
Utah	-	-	-	-	-	-	-	-	-
Nev.	-	-	-	4	1	-	-	-	-
PACIFIC	149	139	-	96	109	-	2	-	14
Wash.	-	4	-	-	7	-	-	-	-
Oreg.	3	8	-	5	1	-	-	-	-
Calif.	144	123	-	82	101	-	1	-	14
Alaska	-	-	-	-	-	-	-	-	-
Hawaii	2	4	-	2	3	-	1	-	-
Guam	-	-	U	-	2	-	-	-	-
P.R.	25	3	-	6	2	-	-	-	1
V.I.	-	-	U	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-
Amer Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 11, 1986 (2nd Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	850	566	174	57	18	35	81	S. ATLANTIC	1,631	1,002	411	122	47	47	74
Boston, Mass.	227	119	61	24	9	14	31	Atlanta, Ga.	268	155	79	25	7	2	6
Bridgeport, Conn.	65	45	11	6	2	2	3	Baltimore, Md.	250	156	58	19	9	8	7
Cambridge, Mass.	33	30	3	-	-	-	4	Charlotte, N.C.	126	82	30	7	3	4	10
Fall River, Mass.	32	26	5	1	-	-	-	Jacksonville, Fla.	160	101	37	8	10	4	12
Hartford, Conn.	84	54	20	7	1	2	4	Miami, Fla.	187	96	43	19	5	4	2
Lowell, Mass.	37	29	7	1	-	-	6	Norfolk, Va.	91	47	23	6	1	4	5
Lynn, Mass.	24	19	5	-	-	-	-	Richmond, Va.	111	64	27	12	5	3	6
New Bedford, Mass.	25	20	5	-	-	-	-	Savannah, Ga.	56	41	10	2	-	3	3
New Haven, Conn.	56	32	11	4	1	8	2	St. Petersburg, Fla.	121	91	24	3	2	1	7
Providence, R.I.	102	73	23	3	-	3	12	Tampa, Fla.	110	64	28	7	2	8	10
Somerville, Mass.	5	4	1	-	-	-	1	Washington, D.C.	124	63	41	11	3	5	4
Springfield, Mass.	45	34	5	3	1	2	7	Wilmington, Del.	57	42	11	3	-	1	2
Waterbury, Conn.	41	30	5	2	4	-	5								
Worcester, Mass.	74	51	12	7	-	4	3	ES CENTRAL	1,067	687	239	77	27	37	57
								Birmingham, Ala.	154	88	40	11	5	10	5
MID ATLANTIC	3,053	2,042	609	276	69	55	173	Chattanooga, Tenn.	106	66	27	6	4	3	5
Albany, N.Y.	64	41	15	5	2	1	5	Knoxville, Tenn.	110	76	19	10	4	1	7
Allentown, Pa.	15	12	1	1	-	-	-	Louisville, Ky.	124	91	26	5	1	1	5
Buffalo, N.Y.	126	91	20	4	2	8	11	Memphis, Tenn.	216	133	52	20	10	1	17
Camden, N.J.	63	42	12	5	2	2	3	Mobile, Ala.	99	62	25	9	-	3	4
Elizabeth, N.J.	27	22	3	2	-	-	2	Montgomery, Ala.	85	55	15	3	2	10	4
Erie, Pa.	56	39	14	1	1	1	2	Nashville, Tenn.	173	116	35	13	1	8	10
Jersey City, N.J.	58	38	14	1	1	4	1								
N.Y. City, N.Y.	1,635	1,085	318	190	41	21	96	WS CENTRAL	1,550	940	357	148	57	48	80
Newark, N.J.	99	47	29	15	3	4	3	Austin, Tex.	73	42	15	11	4	1	9
Paterson, N.J.	36	29	3	3	-	1	6	Baton Rouge, La.	48	30	11	3	1	3	2
Philadelphia, Pa.	408	274	94	27	5	8	18	Corpus Christi, Tex.	48	30	10	3	3	2	4
Pittsburgh, Pa.	64	42	14	3	4	1	3	Dallas, Tex.	274	158	70	24	9	13	6
Reading, Pa.	35	25	10	-	-	-	-	El Paso, Tex.	83	50	16	7	8	2	7
Rochester, N.Y.	135	101	23	7	3	1	8	Fort Worth, Tex.	157	103	33	13	3	5	10
Schenectady, N.Y.	42	30	7	3	2	-	1	Houston, Tex.	292	171	75	34	8	4	7
Scranton, Pa.	24	18	4	2	-	-	1	Little Rock, Ark.	94	60	18	9	3	4	8
Syracuse, N.Y.	90	66	17	3	1	3	5	New Orleans, La.	64	40	14	9	-	1	1
Trenton, N.J.	11	7	2	2	-	-	1	San Antonio, Tex.	242	147	65	16	9	5	19
Utica, N.Y.	26	23	3	-	-	-	1	Shreveport, La.	73	42	13	10	4	4	2
Yonkers, N.Y.	39	30	6	2	1	-	2	Tulsa, Okla.	102	67	17	9	5	4	5
EN CENTRAL	2,855	1,998	520	160	81	95	138	MOUNTAIN	823	544	185	58	27	27	44
Akron, Ohio	62	39	11	3	4	5	3	Albuquerque, N.Mex.	108	74	15	8	4	5	7
Canton, Ohio	45	28	14	3	-	-	10	Colorado Springs, Colo.	56	37	12	6	1	-	6
Chicago, Ill.	553	462	11	26	18	37	16	Denver, Colo.	150	91	34	15	5	5	6
Cincinnati, Ohio	142	100	36	3	2	1	18	Las Vegas, Nev.	94	59	27	6	1	1	7
Cleveland, Ohio	223	149	51	13	6	4	1	Ogden, Utah	25	22	1	1	-	1	3
Columbus, Ohio	168	97	48	11	8	4	8	Phoenix, Ariz.	172	115	35	10	9	3	3
Dayton, Ohio	169	104	51	6	4	4	1	Pueblo, Colo.	22	15	6	1	-	-	1
Detroit, Mich.	376	220	79	47	20	10	10	Salt Lake City, Utah	56	35	11	2	4	4	1
Evansville, Ind.	67	48	12	3	2	2	6	Tucson, Ariz.	140	96	24	9	3	8	10
Fort Wayne, Ind.	98	67	19	7	3	2	4								
Gary, Ind.	33	20	7	1	5	-	3	PACIFIC	2,565	1,779	478	169	72	61	165
Grand Rapids, Mich.	47	35	8	1	-	3	9	Berkeley, Calif.	26	19	4	1	1	1	2
Indianapolis, Ind.	241	167	49	12	5	8	4	Fresno, Calif.	120	82	21	7	3	7	18
Madison, Wis.	25	17	4	2	-	2	3	Glendale, Calif.	27	20	5	1	1	-	4
Milwaukee, Wis.	213	153	45	11	-	4	8	Honolulu, Hawaii	94	69	13	4	5	3	4
Peoria, Ill.	43	35	7	-	-	1	7	Long Beach, Calif.	112	71	25	10	2	4	16
Rockford, Ill.	74	58	10	2	3	1	9	Los Angeles, Calif.	711	487	138	51	23	6	22
South Bend, Ind.	66	39	18	6	2	1	6	Oakland, Calif.	90	64	12	6	4	4	4
Toledo, Ohio	135	98	30	3	-	4	9	Pasadena, Calif.	60	46	7	2	-	5	3
Youngstown, Ohio	75	62	10	-	1	2	3	Portland, Oreg.	182	127	38	10	5	2	15
								Sacramento, Calif.	168	111	34	11	6	6	11
WN CENTRAL	910	643	171	44	18	34	56	San Diego, Calif.	229	165	38	15	6	5	21
Des Moines, Iowa	77	58	12	4	-	-	3	San Francisco, Calif.	188	130	29	19	3	7	9
Duluth, Minn.	34	24	8	2	-	-	4	San Jose, Calif.	197	134	41	13	5	4	15
Kansas City, Mo.	48	36	6	4	2	-	3	Seattle, Wash.	214	149	41	14	6	4	6
Lincoln, Nebr.	34	23	9	1	-	1	3	Spokane, Wash.	75	48	22	2	1	2	3
Minneapolis, Minn.	115	77	25	7	3	3	4	Tacoma, Wash.	72	57	10	3	1	1	12
Omaha, Nebr.	99	67	22	4	1	5	6								
St. Louis, Mo.	169	125	26	6	5	7	8	TOTAL	15,304	10,201	3,124	1,111	416	439	868
St. Paul, Minn.	80	60	12	4	1	3	3								
Wichita, Kans.	116	77	22	7	4	6	6								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES (Total)	11,761,000	866.7
Unintentional injuries§ (E800-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E978)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity¶ (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*Years of potential life lost before age 65 for persons dying in the year are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVS), Vol. 33, No. 13, September 26, 1985, multiplied by the difference between age 65 years and the age at the midpoint of each category. As a measure of mortality, "Years of potential life lost" underestimate the importance of diseases that contribute to death without being the underlying cause of death.

†Cause-specific mortality rates as reported in the MVS are compiled from a 10% sample of all deaths.

§Equivalent to accidents and adverse effects.

¶Category derived from disorders relating to short gestation and respiratory distress syndrome.

Malaria Prophylaxis — Continued

Reported by Malaria Br, Div of Parasitic Diseases, Center for Infectious Diseases, Div of Quarantine, Center for Prevention Svcs, CDC.

References

1. CDC. Revised recommendations for preventing malaria in travelers to areas with chloroquine-resistant *P. falciparum*. MMWR 1985;34:185-90.
2. CDC. Health information for international travel 1985. Atlanta, Georgia: Public Health Service, U.S. Department of Health and Human Services; publication no. (CDC) 85-8280.

Update: Influenza Activity — United States, Worldwide

UNITED STATES

Reports of influenza virus isolates, primarily representing sporadic cases, have begun to increase in the United States. Through January 13, 1986, 16 states have reported influenza isolates this season; 12 states have reported type B isolates; 10 have reported type A(H3N2); and one state, Hawaii, has reported type A(H1N1) (Figure 2).

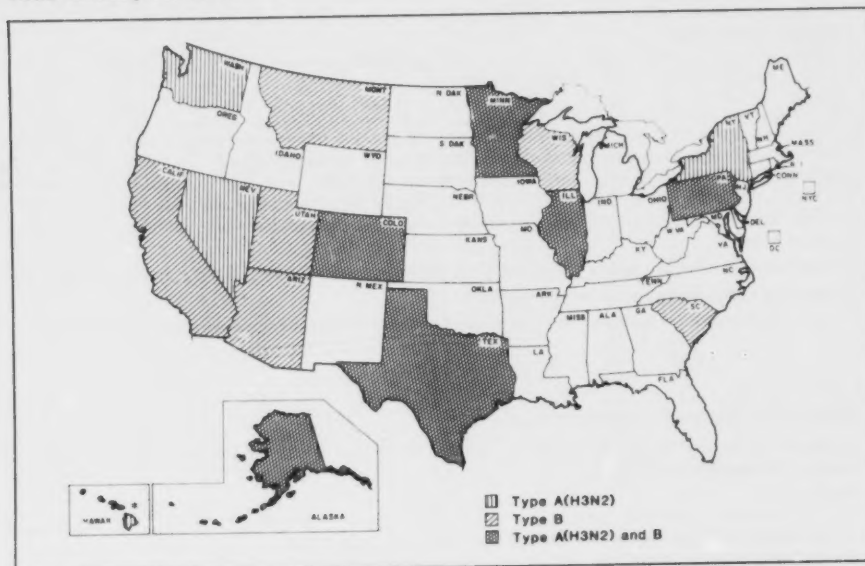
Arizona, Illinois, Minnesota, South Carolina, and Utah recently reported their first influenza virus isolates this season from patients who became ill in late December or early January. Type B influenza virus was reported from Arizona, South Carolina, and Utah; both type B and A(H3N2) viruses were reported from Illinois and Minnesota. In Colorado, where type A(H3N2) virus was isolated earlier this season, type B virus has now been reported. In Pennsylvania, where type B virus had been isolated, type A(H3N2) virus isolates have now been reported.

Alaska, the only state to report widespread outbreaks of influenza-like illness through December, reported a decrease to regional outbreaks for the week ending January 4. Nationwide, reports of influenza-like illness* and reports of deaths associated with pneumonia and influenza from 121 U.S. cities have remained below the levels normally associated with extensive outbreaks.

Outbreaks of influenza A(H3N2) in two long-term-care facilities in upstate New York have been reported. The first occurred in a facility housing approximately 260 elderly residents, 15

*Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

FIGURE 2. States reporting isolates of influenza virus, by type — United States, October 1985-January 13, 1986



*In Hawaii, type A(H1N1) has also been isolated.

Influenza — Continued

of whom developed influenza-like illnesses between December 29, 1985, and January 3, 1986; throat cultures from five ill residents yielded influenza A(H3N2) viruses. The second outbreak began during the second week of January in a 330-bed nursing home. By January 10, approximately 30 residents had developed influenza-like illnesses. Preliminary results of viral cultures indicate that influenza type A(H3N2) virus also caused this outbreak. These are the first reported influenza outbreaks affecting elderly persons in U.S. residential health-care facilities this season.

WORLDWIDE

From September through December 1985, influenza virus types A(H3N2), A(H1N1), and B were isolated from various parts of the Northern Hemisphere and the tropics. Type A(H3N2) isolates have usually been associated with sporadic activity, although several countries reported outbreaks. Sporadic cases of type B influenza were reported from several countries, while type A(H1N1) was isolated only from sporadic cases in China and Hong Kong.

Type A(H3N2). Widespread outbreaks of type A(H3N2) influenza were reported in Japan, beginning in mid-October. In England, an explosive outbreak affecting approximately 50% of students occurred in a boarding school. Localized outbreaks were documented in Czechoslovakia. In Brazil, localized outbreaks were reported among the general population of Rio de Janeiro during October, but type A(H3N2) isolates from other parts of the country were associated only with sporadic cases. Jamaica, China, Switzerland, Italy, the German Democratic Republic, and the Soviet Union also reported sporadic isolates of type A(H3N2) viruses.

Type B. Isolates of type B virus associated with sporadic activity have been reported from Brazil, China, Korea, India, and Poland.

Type A(H1N1). In most parts of the world, influenza type A(H1N1) has circulated at very low levels since early 1984. In mainland China, however, more than 70% of influenza viruses isolated from May to October 1985 were type A(H1N1), although the level of activity has remained low. A few type A(H1N1) viruses have also been isolated in Hong Kong.

Reported by J Wilkinson, MD, Good Samaritan Medical Center, Phoenix; D Woodall, Health Svcs Laboratory, GG Caldwell, MD, State Epidemiologist, Arizona Dept of Health Svcs; B Haslam, Bureau of Epidemiology, F Urry, PhD, State Public Health Lab, CR Nichols, MPA, State Epidemiologist, Utah Dept of Health; E Saxton, PhD, Viral Laboratory University of Chicago; R Murphy, Virology Laboratory, BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; D Stiepan, MPH, H Markowitz, MD, State Laboratory Director, J Braun, MS, MT Osterholm, PhD, State Epidemiologist, Minnesota Dept of Health; A DiSalvo, MD, State Public Health Laboratory Director, RV Parker, DVM, State Epidemiologist, South Carolina Dept of Health; G Meiklejohn, MD, University of Colorado, Denver, SW Ferguson, PhD, State Epidemiologist, Colorado Dept of Health; J Schivers, Regional Clinical Laboratory of Pennsylvania, Erie, B Kleeger, PhD, State Public Health Laboratory, EJ Witte, VMD, State Epidemiologist, Pennsylvania State Dept of Health; DL Morse, MD, State Epidemiologist, New York State Dept of Health; participating physicians of the American Academy of Family Physicians; Virus Diseases Unit, World Health Organization, Geneva, Switzerland; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Changes in Premature Mortality — United States, 1983-1984

Premature mortality in the United States, as measured by years of potential life lost before age 65 (YPLL), increased from 1983 to 1984 for the first time since 1980. Total YPLL from all causes of death increased from 11,712,000 in 1983 to 11,761,000 in 1984, a 0.4% increase. The rate of YPLL per 1,000 persons under 65 years old, however, decreased by 0.4%

Premature Mortality — Continued

from 1983's level to 56.5/1,000 persons. An increase of 1.5 million persons under 65 years of age accounts for this discrepancy.

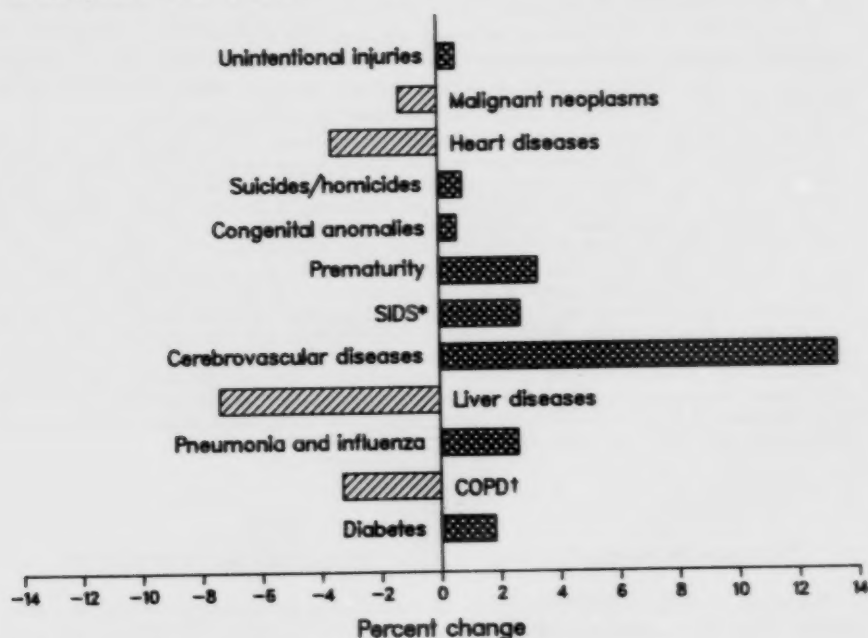
The relative rankings of the leading causes of YPLL did not change substantially from 1983 to 1984. The only change was cerebrovascular diseases replacing chronic liver diseases as the eighth leading cause of YPLL. Unintentional injuries (accidents) continue to head the list, accounting for 20% of the total YPLL, followed by malignant neoplasms (15%), diseases of the heart (13%), and suicides/homicides (11%).

The rate of YPLL per 1,000 persons increased for eight of the 12 leading causes (Figure 3). The largest proportionate increase in the rate of YPLL was recorded for cerebrovascular diseases, up 13.1%. Increases in YPLL rates were also noted for prematurity, up 3.3%; sudden infant death syndrome, 2.7%; pneumonia and influenza, 2.6%; and diabetes mellitus, 1.8%. In contrast, the rate of YPLL for chronic liver diseases and cirrhosis decreased by 7.4%; diseases of the heart declined 3.6%; chronic obstructive pulmonary diseases and allied conditions, 3.3%; and malignant neoplasms, 1.3%.

Reported by Epidemiologic Studies Br, Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, CDC.

Editorial Note: With this issue, CDC announces a change in the method of calculation of YPLL to include causes of mortality in the first year of life. The relatively high age-specific

FIGURE 3. Percent change from 1983 to 1984 in rates of years of potential life lost before age 65 — United States



*Sudden infant death syndrome.

†Chronic obstructive pulmonary diseases and allied conditions.

Premature Mortality — Continued

death rate of these infants, combined with the years of life remaining before age 65, adds two new causes to the list of leading causes of YPLL—sudden infant death syndrome (ICD code 798) and deaths attributable to prematurity, including neonatal respiratory distress syndrome (ICD code 769) and disorders relating to short gestation and unspecified low birth-weight (ICD code 765). The updated Table V appears on page 27 of this issue.

The inclusion of deaths in the first year of life does not account for the increase in total YPLL from 1983 to 1984. Although total YPLL decreased each year from 1980 to 1984, the slight increase in 1984 is present when YPLL is calculated by either the birth-to-age-65-years or the age 1- to 65-years method (Figure 4). The rate of YPLL per 1,000 persons, however, has decreased each year since at least 1979 with both methods of calculation and now stands 12.3% below the 1979 level when measured from age 1 year to 65 years, and 14.1% when measured from birth to age 65 years.

Considerable variability continues to be demonstrated in the year-to-year comparison of YPLL rate due to specific causes of mortality. The rate of YPLL attributable to cerebrovascular diseases, for example, increased by 13.1% in 1984, reversing the 12.4% decline in the previous year. In contrast, the YPLL rate for unintentional injuries, which has consistently decreased from 1979 until 1984, increased by 0.4% in 1984, but remains 22.5% below the 1979 level.

FIGURE 4. Total years of potential life lost before age 65, including and excluding deaths in the first year of life, by year — United States, 1979-1984

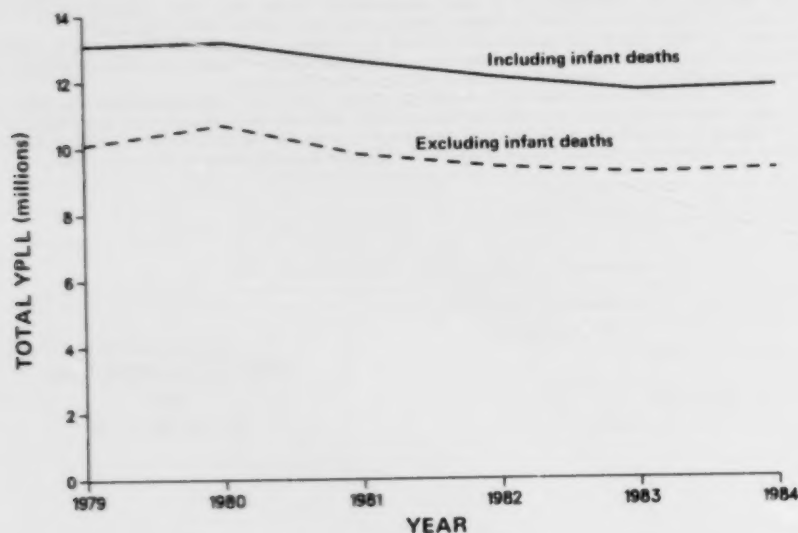
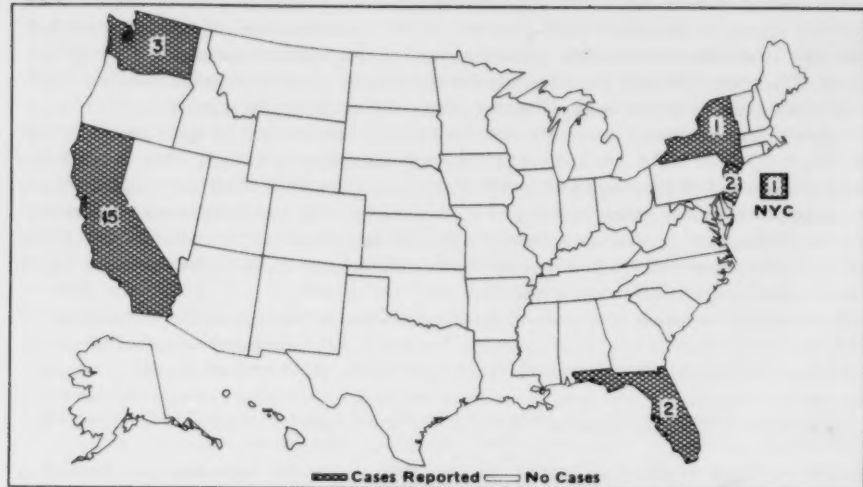


FIGURE 1. Reported measles cases — United States, weeks 50-52, 1985, and week 1, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21037 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **

MMWR

- 33 Trichinosis — Maine, Alaska
35 Update: Acquired Immunodeficiency Syndrome — Europe
46 Update: Influenza Activity — United States — and the Role of Rapid Virus Typing in Improving Amantadine Use

MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Trichinosis — Maine, Alaska

In 1985, the following outbreaks of trichinosis were reported from Maine and Alaska.

Maine. On October 10, 1985, two cases of trichinosis were reported to the Maine Bureau of Health. The patients had consumed pork from a sow purchased from a local farm. Because members of several families had consumed pork or viscera from the pig, the cases were investigated to determine the extent of the outbreak. A survey was undertaken seeking a history of symptoms commonly seen with trichinosis (fever, myalgias, periorbital edema, and malaise) in individuals known to have consumed the implicated pork. Blood was collected from each individual for eosinophil count and *Trichinella* serology. A case was defined as an individual with a history of ingesting the implicated pork and with signs and symptoms compatible with trichinosis and either (1) an elevated eosinophil count (total eosinophil count of greater than 450 or a differential greater than 5% on the white blood cell count) or (2) serologic proof of trichinosis infection (bentonite flocculation titers [BF] $\geq$ 1:5).

Nineteen individuals consumed pork from the implicated pig. Follow-up could not be obtained on three. Two (18%) of the 11 individuals submitting convalescent sera, both with symptoms and elevated eosinophil counts, had titers of 1:10 or greater. Sera drawn during the acute phase on these two patients tested negative. Five (31%) persons met the case definition, with eosinophilia and at least one of the following symptoms: fever (two [40%] individuals), periorbital edema (two [40%]), myalgias (two [40%]), malaise (two [40%]), diarrhea (two [40%]), and maculopapular rash (one [20%]), including both those with positive serologies.

Patients' ages ranged from 25 years to 49 years (mean 35 years). Four (80%) were male. Since all but one individual consumed the implicated pork on more than one occasion, the incubation period could not be determined. All five patients denied consuming the pork raw or undercooked; three were involved in butchering the pig; two were hospitalized and received thiabendazole. The patient with the maculopapular rash received corticosteroids and benadryl. All five patients recovered.

Meat samples from the implicated pig were examined by the Animal Parasitology Institute, U.S. Department of Agriculture (USDA). Analysis by tissue digestion revealed greater than 300 trichinae larva/gram. Investigation by the Maine Bureau of Health of the farm where the pig had been purchased revealed that the farmer fed the pigs garbage (reportedly boiled) and that the environment was conducive to the proliferation of rats. The three remaining pigs at the farm had serologic evidence of trichinosis on testing by USDA. Because approximately 25 suckling pigs were reportedly sold from the farm, a press release was issued November 5 alerting area residents to the problem and asking persons who felt they may have been exposed to noncommercial pork to call the Bureau of Health. To date, no calls have been received, but surveillance is continuing.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7609:

Trichinosis - Continued

Alaska. On March 15, 1985, a private physician reported a case of trichinosis to the Alaska Department of Health and Social Services. Because the patient and 15 other individuals had consumed grizzly bear meat at a birthday party in January 1985, an investigation was initiated similar to the one in Maine.

Follow-up information was obtained from 14 (88%) of the 16 individuals who attended the birthday party and three others who consumed some of the meat either before or after the party. Fourteen (82%) of the 17 had elevated eosinophil counts ranging from 3% to 63%. Of these, nine had the following symptoms suggestive of trichinosis: myalgias (six [67%]), diarrhea (four [44%]), rash (three [33%]), fever (three [33%]), and periorbital edema (one [11%]). BF testing of sera drawn from the 17 individuals 3 months after consumption of the bear meat was negative, except for the index patient who had a titer of 1:20.

The nine patients with eosinophilia and symptoms ranged from 3 years to 35 years of age (mean 22 years). Five (56%) of the patients were female. The incubation period ranged from 10 days to 61 days.

The implicated bear meat had been frozen for approximately 3 weeks before the party. The frozen meat was cut into bite-sized pieces and reportedly cooked in a soup with vegetables for 1-2 hours. No samples of the meat were available for examination or for verification of cooking status.

Reported by E Lommler, MD, Millinocket Regional Hospital, M Boulanger, MD, Lewiston, D Dineen, DVM, Maine Dept of Agriculture, C Allen, KF Gensheimer, MD, State Epidemiologist, Maine Bureau of Health; SA Jenkerson, Nurse Epidemiologist, Epidemiology Office, J Middaugh, MD, State Epidemiologist, Alaska Dept of Health and Human Svcs; KD Murrell, PhD, Animal Parasitology Institute, US Dept of Agriculture; Helminthic Diseases Br, Div of Parasitic Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Although the incidence of trichinosis has decreased markedly from 300 to 400 cases reported annually in the late 1940s (1) to a mean of 88 cases reported annually over the past 5 years, trichinosis remains a public health problem in the United States. The outbreaks presented here highlight interesting aspects of the epidemiology and control of trichinosis. A large number of the cases reported each year occur in the New England and Middle Atlantic states, a finding that has been associated with the high concentration of ethnic groups in those regions whose culinary preferences include raw pork (7). In addition, recent studies suggest that swine from these regions may be more highly infected than those of other regions. Surveys of selected slaughterhouses in the New England and Middle Atlantic states found infection rates of 0.73% and 0.58%, respectively (2,3), surpassing the estimated national average rate of 0.1% (4). These findings were attributed to certain swine-management practices (garbage feeding, rat infestation [5], and cannibalism) by small and/or part-time hog producers common to these regions. In light of the culinary preferences of the resident ethnic groups of these areas, the relative importance of these findings needs further investigation.

This is the fifth outbreak of trichinosis reported from Alaska since 1975 (6). Two outbreaks have involved walrus meat; one, black bear meat; and two, including the one reported here, grizzly bear meat. Epidemiologic and experimental studies suggest that the arctic strain of *T. spiralis* may be more resistant to cold than those found in pork. According to USDA recommendations, *T. spiralis* in pork is rendered nonviable if held at -15 C (5 F) (temperatures achievable in noncommercial refrigerators) for 20 days. However, polar bear meat, stored at -18 C (0 F) for up to 24 months remained infective for mice (7,8), and an outbreak of trichinosis resulted from the consumption of bear meat frozen for 81 days at -18 C (0 F) (9). Since control of trichinosis, in part, has relied upon the widespread use of commercial and home freezing (7), this difference between strains is of clinical importance and needs to be

Trichinosis — Continued

emphasized through public health education to potential consumers of wild animal meat. However, adequate cooking at 77 C (170 F)—well above the thermal death point of the parasite—remains the best safeguard against trichinosis.

References

1. Schantz PM. Trichinosis in the United States—1947-1981. *Food Tech* 1983;83-6.
2. Schad GA, Leiby DA, Duffy CH, Murrell KD. Swine trichinosis in New England slaughterhouses. *Am J Vet Res* 1985;46:2008-10.
3. Schad GA, Kelly M, Leiby DA, Blumrick K, Duffy CH, Murrell KD. Swine trichinosis in mid-Atlantic slaughterhouses: possible relationship to hog marketing systems. *Prev Vet Med* (in press).
4. Zimmerman WJ, Zinter DE. The prevalence of trichinosis in swine in the United States 1966-1970. *HSMA Health Rep* 1971;86:937-45.
5. Murrell KD, Gamble HR, Schad GA. Experimental transmission of *Trichinella spiralis* to swine by infected rats. *Proceedings Helminthol Soc Wash* 1984;51:66-8.
6. CDC. Trichinosis surveillance annual summary 1981. Issued October 1982.
7. Kjos-Hanssen B. Freeze resistance of *Trichinella* cysts in polar bears from the high-arctic region of Norway (Svalbard). *Acta Vet Scand* 1983;24:244-6.
8. Kjos-Hanssen B. *Trichinella* isolates from polar bears in Svalbard. Freeze resistance and infectivity in rats and swine. *Nord Vet Med* 1984;36:57-61.
9. Clark PS, Brownsberger KM, Saslow AR, Kagan IG, Noble GR, Maynard JE. Bear meat trichinosis. Epidemiologic, serologic, and clinical observations from two Alaskan outbreaks. *Ann Intern Med* 1972;76:951-6.

*International Notes***Update: Acquired Immunodeficiency Syndrome — Europe**

As of September 30, 1985, 1,573 cases of acquired immunodeficiency syndrome (AIDS) were reported to the World Health Organization (WHO) European Collaborating Centre on AIDS by the 21 countries corresponding with the Centre (Table 1). The new cases represent an average increase of 27 cases per week. Of the 1,573 patients, 792 are reported to have died (case-fatality rate: 50%) (Table 2, Figure 1).

The greatest increases in numbers of cases were observed in: the Federal Republic of Germany—75 (five to six per week); France—74 new cases (five to six per week); the United Kingdom—49 (three to four per week); and Italy—40 (three per week). In each of four countries (Belgium, Netherlands, Spain, and Switzerland), an increase of one to two cases per week was noted. Five countries (Czechoslovakia, Hungary, Iceland, Poland, the Union of Soviet Socialist Republics) had not reported any cases.

AIDS cases per million population were calculated using 1985 population estimates (Institut National d'Etudes Démographiques, Paris). The highest rates were noted in: Switzerland—11.8; Denmark—11.2; and France—8.5. These rates are low compared to the U.S. rate of 60.0 (1).

DISTRIBUTION BY DISEASE CATEGORY AND PATIENT SEX

A total of 1,025 patients (65%) presented with one or more opportunistic infections; 309 (20%) had Kaposi's sarcoma (KS) alone; and 212 (13%) had opportunistic infections with KS. The category "Other" (27 cases) includes four cases of progressive multifocal leukoencephalopathy (France—three; Denmark—one), six cases of isolated cerebral lymphoma (the United Kingdom—two; France—three; Switzerland—one), three cases of isolated Burkitt lymphomas of the brain (Denmark—one; the Federal Republic of Germany—two); 10 cases of B-cell non-Hodgkin's lymphomas (the Federal Republic of Germany—four; the Netherlands—three); and

AIDS — Continued

Luxembourg, Norway, and Switzerland—one each); and four unknown (Sweden). The highest case-fatality rate (59%) was noted for patients with both KS and opportunistic infections. The case-fatality rate for opportunistic infections alone was 56%; for KS alone, 25%.

Males accounted for 92% of the cases (Table 3). The male:female ratio was 11:1. Forty-two percent of cases occurred in the 30- to 39-year age group. Thirty-six pediatric cases (children under 15 years old) have been reported in 10 European countries. Twenty-four (67%) children either had parents with AIDS or parents in a group at high risk for AIDS; for 10 pediatric patients (five with hemophilia and five with blood transfusions), transmission was linked to contaminated blood or blood products. In two of the pediatric patients, no risk factor was reported.

DISTRIBUTION BY GEOGRAPHIC ORIGIN

Total cases were distributed geographically and by risk group as follows (Table 4):

Europeans* (1,330 cases [85% of total]). A total of 1,288 (97%) patients were living in Europe before onset of the first symptoms; 42 (3%) were living in non-European countries: United States—13; Zaire—12; Haiti—three; and one each in Bermuda, Brazil, Burundi, Congo, Gabon, Ghana, Malaysia, Morocco, Nicaragua, South Africa, Togo, and Venezuela; the country of residence was not specified for two patients.

Of the 1,330 European patients, 1,031 (78%) were homosexual or bisexual. Ninety (7%)

*The word European refers to patients originating from one of the countries belonging to the WHO European region.

TABLE 1. Reported acquired immunodeficiency syndrome cases and estimated rates per million population — 21 European countries, October 1, 1984–September 30, 1985

Country	Oct. 1984	March 1985	June 1985	Sept. 1985	Rates*
Austria	-	13	18	23	3.1
Belgium	-	81	99	118	11.9
Czechoslovakia	0	0	0	0	0.0
Denmark	31	41	48	57	11.2
Federal Republic of Germany	110	162	220	295	4.8
Finland	4	5	6	10	2.0
France	221	307	392	466	8.5
Greece	2	7	9	10	1.0
Hungary	-	-	-	0	0.0
Iceland	0	0	0	0	0.0
Italy	10	22	52	92	1.6
Luxembourg	-	-	1	3	7.5
Netherlands	26	52	66	83	5.7
Norway	4	8	11	14	3.3
Poland	0	0	0	0	0.0
Spain	18	29	38	63	1.6
Sweden	12	22	27	36	4.3
Switzerland	33	51	63	77	11.8
United Kingdom	88	140	176	225	4.0
Union of Soviet Socialist Republics	-	-	-	0	0.0
Yugoslavia	-	-	-	1	-
Total	559	940	1,226	1,573	-

*Per million population based on 1985 populations.

AIDS — Continued

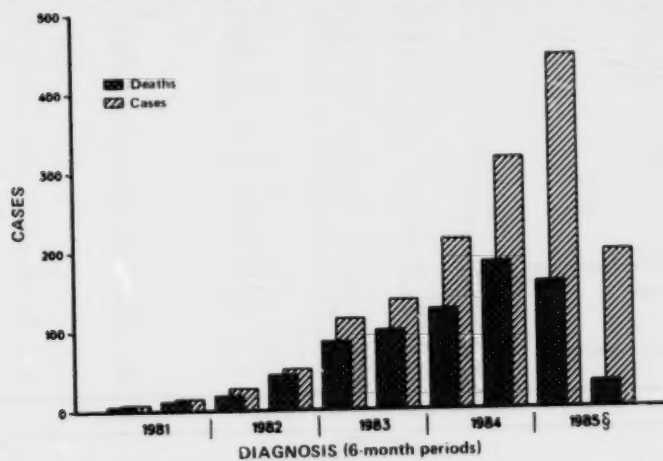
patients were IV drug abusers, and 21 (2%), both homosexual and IV drug abusers. These 111 cases were diagnosed in: Italy—45; Spain—26, the Federal Republic of Germany—14; France—11; Switzerland—seven; Austria—four; the United Kingdom—three; and Sweden—one. Fifty-two (4%) of the reported patients had hemophilia and were diagnosed in: the Federal Republic of Germany—21; Spain—12; the United Kingdom—nine; France—three; Sweden—two; and one each in Austria, Denmark, Greece, Italy, and Norway. One German patient with hemophilia was reported as being homosexual and an IV drug abuser. Thirty (2%) patients, for whom the only risk factor found was blood transfusion, were

TABLE 2. Acquired immunodeficiency syndrome cases and number of deaths, by disease category — 21 European countries,* through September 30, 1985

Disease category	Cases	(%)	Deaths	(%)
Opportunistic infection	1,025	(65)	575	(56)
Kaposi's sarcoma	309	(20)	77	(25)
Opportunistic infection and Kaposi's sarcoma	212	(13)	126	(59)
Other	27	(2)	14	(52)
Total	1,573	(100)	792	(50)

*Austria, Belgium, Czechoslovakia, Denmark, Finland, France, the Federal Republic of Germany, Greece, Hungary, Iceland, Italy, Luxembourg, the Netherlands, Norway, Poland, Spain, Sweden, Switzerland, the United Kingdom, the Union of Soviet Socialist Republics, and Yugoslavia.

FIGURE 1. Acquired immunodeficiency syndrome cases and deaths, by 6-month period of diagnosis — 21 European countries,* January 1, 1981-September 30, 1985†



*Austria, Belgium, Czechoslovakia, Denmark, the Federal Republic of Germany, Finland, France, Greece, Hungary, Iceland, Italy, Luxembourg, the Netherlands, Norway, Poland, Spain, Sweden, Switzerland, the United Kingdom, the Union of Soviet Socialist Republics, and Yugoslavia.

†Before 1981, 21 cases, including 11 deaths, were reported. In addition, 23 cases (10 deaths) with unknown dates of diagnosis were also reported.

§January-September 1985.

AIDS - Continued

diagnosed in: France—15; Belgium, the Netherlands, and the United Kingdom—four each; the Federal Republic of Germany—two; and Italy—one. Among these 30 cases, five had received blood transfusions outside Europe: one diagnosed in the Netherlands had undergone heart surgery in the United States; one diagnosed in France had received blood transfusions in Haiti and Martinique; and two diagnosed in Belgium had received transfusions in Zaire. One child diagnosed in the United Kingdom had received a blood transfusion in the United States. For 90 patients (7%), no risk factor was found (male:female ratio 2:1). Risk-factor information was not obtained for 16 patients.

Caribbeans (39 [2%]). Thirty-seven patients were living in Europe before the onset of the first symptoms: 32 Haitians were diagnosed in France; one, in Belgium; and one, in Switzerland; one Dominican and one Jamaican were living in the United Kingdom; one patient of unspecified origin was living in Switzerland. Two Haitian patients diagnosed in France were living in Haiti.

Of the Caribbean patients, four were homosexual, and no risk factors were identified for 34 (male:female ratio 3:1). Risk-factor information was not obtained in one case.

(Continued on page 43)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	3rd Week Ending			Cumulative, 3rd Week Ending		
	Jan 18, 1986	Jan 19, 1985	Median 1981-1985	Jan 18, 1986	Jan 19, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	155	124	N	658	277	N
Aseptic meningitis	44	79	91	192	206	264
Encephalitis: Primary (arthropod-borne & unspc.)	8	15	18	33	36	44
Gonorrhea: Post-infectious	-	1	2	-	6	4
Civilian	13,050	15,696	18,989	38,922	41,396	55,168
Military	157	291	458	586	859	1,475
Hepatitis: Type A	250	382	382	799	928	1,011
Type B	278	421	421	942	1,042	1,042
Non A, Non B	29	71	N	122	181	N
Unspecified	31	83	145	183	204	362
Legionellosis	2	5	N	21	26	N
Leprosy	-	4	3	13	9	9
Malaria	4	7	14	21	20	33
Measles: Total*	4	10	10	31	25	25
Indigenous	-	5	N	29	15	N
Imported	-	-	N	2	10	N
Meningococcal infections: Total	39	48	62	129	113	155
Civilian	39	48	60	127	113	148
Military	-	-	-	1	-	-
Mumps	25	49	82	81	126	192
Pertussis	28	16	14	77	55	45
Rubella (German measles)	-	5	6	6	14	30
Syphilis (Primary & Secondary): Civilian	316	378	591	956	1,064	1,718
Military	3	1	7	9	10	23
Toxic Shock syndrome	2	5	N	11	18	N
Tuberculosis	209	304	349	583	679	912
Tularemia	1	1	1	4	6	3
Typhoid fever	1	1	4	7	6	10
Typhus fever, tick-borne (RMSF)	-	-	-	2	1	4
Rabies, animal	57	73	81	185	195	237

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	5
Botulism: Foodborne	-	Plague	-
Infant	2	Polio, paralytic	-
Other	-	Psittacosis (Pa. 1)	-
Brucellosis (S. Dak. 1)	2	Rabies, human	1
Cholera	-	Tetanus (S.C. 1)	2
Congenital rubella syndrome	1	Trichinosis (Mass. 4)	4
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	-
Ophioidosis	-		

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
January 18, 1986 and January 19, 1985 (3rd Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral, by type)				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA, NB	Unspeci- fied		
					Cum 1986	Cum 1986					Cum 1986	Cum 1985
UNITED STATES	658	44	33	-	38,922	41,396	250	278	29	31	2	13
NEW ENGLAND	17	5	-	-	895	1,550	13	38	2	9	-	-
Maine	-	-	-	-	50	61	-	4	-	-	-	-
NH	1	-	-	-	21	32	5	-	-	-	-	-
VT	1	-	-	-	8	13	1	2	-	-	-	-
Mass	9	4	-	-	379	526	6	29	1	9	-	-
RI	2	-	-	-	70	125	-	3	1	-	-	-
Conn	4	1	-	-	367	793	1	-	-	-	-	-
MID ATLANTIC	253	12	5	-	5,962	5,064	21	35	5	2	-	-
Upstate NY	19	5	3	-	634	105	14	11	1	1	-	-
NY City	156	U	1	-	3,102	2,319	U	U	U	U	U	-
NJ	48	3	-	-	676	566	-	-	-	-	-	-
Pa	30	4	1	-	1,550	2,074	7	24	4	1	-	-
E N CENTRAL	30	7	9	-	5,689	4,961	12	16	2	1	-	-
Ohio	22	-	5	-	2,008	1,995	6	7	-	1	-	-
Ind	4	U	-	-	565	384	U	U	U	U	U	-
Ill	-	-	-	-	860	854	-	-	-	-	-	-
Mich	4	7	4	-	1,813	1,653	6	9	2	-	-	-
Wis	-	-	-	-	443	75	-	-	-	-	-	-
W N CENTRAL	22	1	-	-	2,092	2,520	7	20	2	-	1	-
Minn	12	-	-	-	372	360	1	-	-	-	-	-
Iowa	2	-	-	-	236	236	-	-	-	-	-	-
Mo	4	-	-	-	906	1,148	3	19	1	-	-	-
N Dak	1	-	-	-	30	17	1	-	-	-	-	-
S Dak	-	-	-	-	40	56	1	-	-	-	1	-
Nebr	1	-	-	-	112	286	-	-	-	-	-	-
Kans	2	1	-	-	396	417	1	1	1	-	-	-
S ATLANTIC	74	8	9	-	8,676	9,191	22	62	5	2	1	-
Del	4	-	2	-	188	183	2	3	-	-	-	-
Md	14	1	5	-	1,171	1,407	4	13	1	1	1	-
D C	17	-	-	-	837	716	-	1	-	-	-	-
Va	5	1	-	-	1,015	1,115	1	1	1	-	-	-
W Va	-	-	-	-	131	161	2	2	-	-	-	-
NC	5	1	2	-	1,480	1,741	3	18	3	1	-	-
SC	5	-	-	-	1,186	1,335	-	1	-	-	-	-
Ga	-	1	-	-	-	-	1	11	-	-	-	-
Fla	24	4	-	-	2,668	2,533	9	12	-	-	-	-
S CENTRAL	16	4	5	-	3,469	3,958	2	34	1	1	-	-
Ky	5	-	1	-	370	392	-	3	-	-	-	-
Tenn	9	2	-	-	1,410	1,636	2	15	-	1	-	-
Ala	-	2	4	-	810	1,209	-	16	1	-	-	-
Miss	2	-	-	-	879	721	-	-	-	-	-	-
W S CENTRAL	59	-	-	-	5,838	6,468	11	4	-	1	-	-
Ark	5	-	-	-	504	600	-	2	-	-	-	-
La	10	-	-	-	995	1,451	-	-	-	-	-	-
Okla	2	-	-	-	707	700	1	1	-	-	-	-
Tex	42	-	-	-	3,632	3,717	10	1	-	1	-	-
MOUNTAIN	9	7	1	-	1,391	1,585	63	41	9	14	-	-
Mont	-	-	-	-	41	49	1	2	-	2	-	-
Idaho	1	1	-	-	11	36	4	-	-	-	-	-
Wyo	1	U	-	-	18	34	U	U	U	U	U	-
Colo	1	3	-	-	389	471	3	5	1	6	-	-
N Mex	-	-	-	-	151	186	7	5	-	-	-	-
Ariz	1	2	1	-	476	474	43	21	7	5	-	-
Utah	1	1	-	-	64	71	2	6	1	1	-	-
Nev	4	-	-	-	241	264	3	2	-	-	-	-
PACIFIC	178	-	4	-	4,910	6,099	99	28	3	1	-	13
Wash	7	-	-	-	282	408	7	13	-	1	-	-
Oreg	2	-	-	-	220	382	91	13	3	-	-	-
Calif	166	U	3	-	4,167	5,084	U	U	U	U	U	13
Alaska	-	-	1	-	148	137	-	-	-	-	-	-
Hawaii	3	-	-	-	93	88	-	2	-	-	-	-
Guam	-	U	-	-	-	6	U	U	U	U	U	-
PR	-	3	-	-	100	137	2	8	-	-	-	-
VI	-	-	-	-	8	23	-	-	-	-	-	-
Pac Trust Terr	-	U	-	-	-	-	U	U	U	U	U	-
Amer Samoa	-	U	-	-	-	-	U	U	U	U	U	-

- Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 18, 1986 and January 19, 1985 (3rd Week)

Reporting Area	Malaria	Measles (Rubella)					Meningo- coccal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	1985	1986	Cum 1986	1985
		1986	Cum 1986	1986	Cum 1986										
UNITED STATES	21	4	29	-	2	25	128	25	81	271	77	55	-	8	14
NEW ENGLAND	-	-	-	-	-	-	10	-	2	1	5	1	-	-	2
Maine	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	1	-	2	-	-	-	1
Vt.	-	-	-	-	-	-	4	-	-	-	-	1	-	-	-
Mass.	-	-	-	-	-	-	1	-	-	1	2	-	-	-	1
R.I.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Conn.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
MID ATLANTIC	4	1	1	-	1	-	20	1	6	6	20	6	-	1	4
Upstate N.Y.	-	1	1	-	1	-	3	1	3	6	14	2	-	1	-
N.Y. City	1	U	-	U	-	-	8	U	-	U	-	4	U	-	3
N.J.	2	-	-	-	-	-	2	-	2	-	-	-	-	-	1
Pa.	1	-	-	-	-	-	7	-	1	-	6	-	-	-	-
E.N. CENTRAL	-	-	-	-	-	13	12	12	38	8	9	21	-	-	-
Ohio	-	-	-	-	-	-	7	9	9	7	7	3	-	-	-
Ind.	-	U	-	U	-	-	1	U	-	U	-	8	U	-	-
Ill.	-	-	-	-	-	1	-	-	23	-	-	-	-	-	-
Mich.	-	-	-	-	-	-	4	3	6	1	1	-	-	-	-
Wis.	-	-	-	-	-	12	-	-	-	-	1	10	-	-	-
W.N. CENTRAL	-	2	22	-	-	-	7	3	8	1	9	3	-	-	2
Minn.	-	-	-	-	-	-	-	-	-	-	5	1	-	-	-
Iowa	-	-	-	-	-	-	2	2	3	1	2	-	-	-	-
Mo.	-	-	-	-	-	-	4	-	1	-	-	-	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Kans.	-	2	22	-	-	-	1	1	4	-	2	1	-	-	2
S. ATLANTIC	6	-	-	-	-	-	24	4	13	6	11	4	-	-	1
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	1	-	-	-	-	-	2	-	-	4	4	1	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	4	-	-	-	-	-	1	-	3	-	2	-	-	-	-
W. Va.	-	-	-	-	-	-	-	2	7	-	-	-	-	-	-
N.C.	1	-	-	-	-	-	5	1	1	2	4	2	-	-	-
S.C.	-	-	-	-	-	-	7	-	1	-	1	-	-	-	1
Ga.	-	-	-	-	-	-	3	1	1	-	-	-	-	-	-
Fla.	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-
E.S. CENTRAL	1	-	-	-	-	-	14	-	2	1	4	1	-	1	1
Ky.	1	-	-	-	-	-	8	-	2	-	1	-	-	1	1
Tenn.	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-
Ala.	-	-	-	-	-	-	5	-	-	1	2	-	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	3	1	1	-	-	4	-	-	-
Ark.	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
La.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	2	N	N	-	-	1	-	-	-
Tex.	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-
MOUNTAIN	-	1	1	-	-	5	11	4	7	5	9	1	-	-	-
Mont.	-	-	-	-	-	5	2	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
Wyo.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Colo.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
N. Mex.	-	1	1	-	-	-	2	N	N	2	3	1	-	-	-
Ariz.	-	-	-	-	-	-	1	4	6	1	3	-	-	-	-
Utah	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nev.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
PACIFIC	10	-	5	-	1	7	27	-	4	-	10	14	-	4	4
Wash.	-	-	-	-	-	1	7	-	-	-	5	-	-	-	-
Oreg.	1	-	-	-	-	-	5	N	N	-	-	-	-	-	-
Calif.	9	U	5	U	1	6	13	U	4	U	5	14	U	4	4
Alaska	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Guam	-	U	-	U	-	7	-	U	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	12	-	1	2	1	1	-	-	-	-
V.I.	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable * International † Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 18, 1986 and January 19, 1985 (3rd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	956	1,064	2	583	679	4	7	2	185
NEW ENGLAND	37	25	-	19	19	-	1	1	-
Maine	1	1	-	6	1	-	-	-	-
N.H.	1	-	-	-	3	-	-	-	-
Vt.	1	-	-	1	-	-	-	-	-
Mass.	20	13	-	4	12	-	1	1	-
R.I.	1	-	-	-	-	-	-	-	-
Conn.	13	11	-	8	3	-	-	-	-
MID ATLANTIC	117	148	-	103	180	-	1	-	21
Upstate N.Y.	11	7	-	24	14	-	-	-	3
N.Y. City	57	94	U	33	116	-	1	-	-
N.J.	34	35	-	23	8	-	-	-	-
Pa.	15	12	-	23	42	-	-	-	18
E.N. CENTRAL	17	36	-	91	70	-	2	-	5
Ohio	4	6	-	9	21	-	-	-	-
Ind.	8	5	U	-	10	-	-	-	-
Ill.	-	13	-	59	38	-	-	-	-
Mich.	4	9	-	17	-	-	2	-	2
Wis.	1	3	-	6	1	-	-	-	3
W.N. CENTRAL	16	12	1	15	12	3	-	-	11
Minn.	2	2	-	1	-	-	-	-	-
Iowa	3	2	1	-	7	1	-	-	6
Mo.	9	6	-	6	-	2	-	-	1
N. Dak.	2	-	-	1	1	-	-	-	4
S. Dak.	-	-	-	-	1	-	-	-	-
Nebr.	-	1	-	-	-	-	-	-	-
Kans.	-	1	-	7	3	-	-	-	-
S. ATLANTIC	250	257	1	141	118	-	-	-	32
Del.	1	3	-	-	1	-	-	-	-
Md.	28	27	-	7	7	-	-	-	20
D.C.	16	6	-	10	8	-	-	-	-
Va.	27	20	1	4	-	-	-	-	1
W. Va.	1	-	-	1	9	-	-	-	1
N.C.	28	41	-	28	7	-	-	-	-
S.C.	50	46	-	30	27	-	-	-	2
Ga.	-	-	-	11	11	-	-	-	8
Fla.	99	114	-	52	48	-	-	-	-
E.S. CENTRAL	79	88	-	73	60	1	-	1	15
Ky.	4	5	-	16	15	1	-	-	-
Tenn.	48	20	-	14	16	-	-	-	9
Ala.	27	32	-	43	29	-	-	1	6
Miss.	-	31	-	-	-	-	-	-	-
W.S. CENTRAL	253	213	-	29	47	-	-	-	19
Ark.	10	13	-	9	-	-	-	-	2
La.	47	56	-	6	26	-	-	-	-
Okla.	5	4	-	6	5	-	-	-	3
Tex.	191	140	-	8	16	-	-	-	14
MOUNTAIN	32	53	-	11	9	-	1	-	68
Mont.	-	-	-	-	2	-	-	-	34
Idaho	1	1	-	-	-	-	-	-	-
Wyo.	-	-	U	-	-	-	-	-	26
Colo.	18	11	-	-	-	-	-	-	-
N. Mex.	-	-	-	2	-	-	-	-	1
Ariz.	11	41	-	5	5	-	-	-	7
Utah	2	-	-	-	-	-	1	-	-
Nev.	-	-	-	4	2	-	-	-	-
PACIFIC	155	232	-	101	164	-	2	-	14
Wash.	-	6	-	10	4	-	-	-	-
Oreg.	6	11	-	5	2	-	-	-	-
Calif.	144	209	U	82	152	-	1	-	14
Alaska	-	-	-	-	-	-	-	-	-
Hawaii	5	6	-	4	6	-	1	-	-
Guam	-	-	U	-	2	-	-	-	-
P.R.	34	25	-	11	8	-	-	-	3
V.I.	-	-	-	-	-	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-
Amer. Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 18, 1986 (3rd Week)

Reporting Area	All Causes, By Age (Years)						P&†† Total	Reporting Area	All Causes, By Age (Years)						P&†† Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	711	507	143	38	11	12	76	S ATLANTIC	1,554	956	366	129	50	49	68
Boston, Mass.	173	112	37	17	5	2	25	Atlanta, Ga.	218	123	61	21	8	5	5
Bridgeport, Conn.	58	43	10	2	1	2	5	Baltimore, Md.	248	159	51	19	7	12	4
Cambridge, Mass.	25	19	4	2	-	-	3	Charlotte, N.C.	70	43	17	5	3	2	2
Fall River, Mass.	34	27	7	-	-	-	2	Jacksonville, Fla.	162	104	36	9	8	5	10
Hartford, Conn.	70	46	16	3	1	4	4	Miami, Fla.	114	62	35	13	3	1	1
Lowell, Mass.	28	18	7	2	1	-	-	Norfolk, Va.	72	47	17	5	1	2	6
Lynn, Mass.	20	14	5	1	-	-	1	Richmond, Va.	99	59	24	8	3	5	10
New Bedford, Mass.	30	27	3	-	-	-	4	Savannah, Ga.	54	35	11	3	2	3	3
New Haven, Conn.	39	28	9	1	-	1	-	St. Petersburg, Fla.	136	115	15	2	3	1	12
Providence, R.I.	78	55	18	4	-	1	10	Tampa, Fla.	66	44	10	5	2	2	10
Somerville, Mass.	11	7	3	-	-	-	1	Washington, D.C.	284	146	84	35	7	11	5
Springfield, Mass.	49	34	9	2	3	1	6	Wilmington, Del.	31	19	5	4	3	-	-
Waterbury, Conn.	36	33	1	2	-	-	10								
Worcester, Mass.	60	44	14	2	-	-	5	ES CENTRAL	944	640	190	65	22	27	46
								Birmingham, Ala.	174	113	41	14	4	2	4
MID ATLANTIC	3,113	2,546	338	108	60	60	192	Chattanooga, Tenn.	73	54	12	1	2	4	4
Albany, N.Y.	51	30	15	4	1	1	2	Knoxville, Tenn.	128	86	23	9	7	3	4
Allentown, Pa. §	20	20	-	-	-	-	-	Louisville, Ky.	146	105	29	7	1	4	7
Buffalo, N.Y.	142	110	24	5	1	1	12	Memphis, Tenn.	142	91	33	11	4	3	8
Camden, N.J.	35	23	9	2	-	-	1	Mobile, Ala.	71	50	8	8	2	3	5
Elizabeth, N.J.	34	25	8	-	1	-	3	Montgomery, Ala.	57	38	14	2	1	2	3
Erie, Pa. †	49	39	6	4	-	-	4	Nashville, Tenn.	153	103	30	13	1	6	11
Jersey City, N.J.	52	41	4	5	2	-	1								
N.Y. City, N.Y. §	1,527	1,435	12	17	34	29	74	WS CENTRAL	1,452	1,018	241	86	54	51	78
Newark, N.J.	53	27	9	11	4	2	3	Austin, Tex.	69	45	13	4	2	5	11
Paterson, N.J.	28	16	7	2	2	1	6	Baton Rouge, La.	73	60	4	3	3	3	3
Philadelphia, Pa.	587	397	142	28	10	10	43	Corpus Christi, Tex.	63	39	18	3	1	2	3
Pittsburgh, Pa. †	54	32	16	3	1	2	3	Dallas, Tex.	230	133	52	20	12	13	6
Reading, Pa.	41	36	4	1	-	-	4	El Paso, Tex.	93	55	22	6	4	5	5
Rochester, N.Y.	132	94	17	14	2	5	18	Fort Worth, Tex.	135	98	22	7	6	2	7
Schenectady, N.Y.	31	23	6	1	-	1	1	Houston, Tex.	255	233	2	5	8	7	5
Scranton, Pa. †	34	28	6	-	-	-	3	Little Rock, Ark.	61	40	13	4	3	1	7
Syracuse, N.Y.	104	71	23	3	2	5	6	New Orleans, La.	87	52	21	9	3	2	1
Trenton, N.J.	78	54	18	6	-	-	2	San Antonio, Tex.	217	138	45	14	10	9	16
Utica, N.Y.	31	21	7	2	-	-	1	Shreveport, La.	25	16	3	4	-	2	2
Yonkers, N.Y.	30	24	5	-	-	-	7	Tulsa, Okla.	144	109	26	7	2	-	12
EN CENTRAL	2,494	1,754	419	134	64	122	114	MOUNTAIN	718	496	131	46	22	23	50
Akron, Ohio	80	58	14	4	3	1	1	Albuquerque, N. Mex.	105	70	19	8	4	4	6
Canton, Ohio	39	31	6	2	-	-	5	Colorado Springs, Colo.	41	29	7	4	-	1	9
Chicago, Ill. §	553	482	11	26	16	37	16	Denver, Colo.	114	79	16	10	5	4	4
Cincinnati, Ohio	140	93	35	5	4	3	4	Las Vegas, Nev.	86	59	21	3	2	1	4
Cleveland, Ohio	177	99	57	12	4	5	3	Ogden, Utah	21	17	3	-	-	1	2
Columbus, Ohio	124	74	33	7	2	8	6	Phoenix, Ariz.	130	83	22	10	7	8	3
Dayton, Ohio	133	84	36	5	3	5	8	Pueblo, Colo.	21	15	4	2	-	-	4
Detroit, Mich.	304	187	59	37	8	13	7	Salt Lake City, Utah	60	40	11	6	2	1	1
Evansville, Ind.	58	38	10	6	1	3	3	Tucson, Ariz.	140	104	28	3	2	3	17
Fort Wayne, Ind.	82	60	11	4	4	3	6								
Gary, Ind.	23	14	6	2	-	1	-	PACIFIC	2,044	1,520	296	108	55	58	167
Grand Rapids, Mich.	60	46	9	1	1	3	6	Berkeley, Calif.	25	20	2	2	-	1	-
Indianapolis, Ind.	163	89	48	8	5	15	4	Fresno, Calif.	71	51	13	2	2	3	14
Madison, Wis.	48	33	9	1	3	2	7	Glendale, Calif. §	22	22	-	-	-	-	2
Milwaukee, Wis.	154	112	29	2	1	10	3	Honolulu, Hawaii	75	52	12	6	2	3	5
Peoria, Ill.	53	41	4	4	2	2	10	Long Beach, Calif.	74	50	18	1	4	1	13
Rockford, Ill.	49	39	5	1	-	4	9	Los Angeles, Calif. §	486	457	3	-	17	3	16
South Bend, Ind.	44	33	6	1	3	1	4	Oakland, Calif.	78	48	19	6	2	3	6
Toledo, Ohio	150	119	20	2	3	6	9	Pasadena, Calif.	33	20	8	1	1	3	3
Youngstown, Ohio	60	42	13	4	1	-	3	Portland, Oreg.	167	115	33	10	5	4	12
								Sacramento, Calif.	143	98	30	6	4	7	20
WN CENTRAL	865	632	150	42	19	22	43	San Diego, Calif.	209	150	32	18	4	5	26
Des Moines, Iowa	91	69	17	3	1	1	6	San Francisco, Calif.	188	113	38	27	3	9	8
Duluth, Minn.	34	21	9	2	1	1	2	San Jose, Calif.	192	121	40	15	6	9	25
Kansas City, Kans.	32	20	10	-	1	1	1	Seattle, Wash.	172	124	33	10	3	2	10
Kansas City, Mo.	123	89	21	8	1	4	7	Spokane, Wash.	46	35	6	2	2	2	6
Lincoln, Nebr.	45	37	6	1	-	1	2	Tacoma, Wash.	63	46	12	2	-	3	1
Minneapolis, Minn.	98	69	18	7	3	2	2								
Omaha, Nebr.	113	75	21	8	6	3	9								
St. Louis, Mo.	169	132	23	9	2	3	5								
St. Paul, Minn.	71	56	12	-	2	1	3								
Wichita, Kans.	89	64	15	4	2	4	6								
								TOTAL	13,895	10,089	2,274	756	357	424	834

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†† Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

‡ Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

AIDS — Continued

Africans (157 [10%]). These persons were diagnosed in eight European countries and originated from 22 African countries (63% from Zaire and 10% from the Congo). Among the remaining 20 countries, the number of cases varied from one to five. Eighty-six patients (55%) were living in Europe before onset of the first symptoms. Sixty-six resided in Africa, and one, in the United States. Two patients from Zaire and one each from Burundi and Rwanda were living in other parts of the world.

Of the 157 Africans, 11 were homosexuals; five had received blood transfusions; and one was both homosexual and an IV drug abuser. No risk factors were identified for 124 (male: female ratio 2:1); and for 16, information was not obtained.

Other origins (47 cases [3%]). Most of these patients originated from the American continents: the United States—23; Argentina—four; Brazil—three; and one each from Canada,

TABLE 3. Acquired immunodeficiency syndrome cases, by age group and sex — 21 European countries, through September 30, 1985

Age group	Males	Females	Total	
			No.	(%)
0-11 mos.	6	8	14	(0.9)
1-4 yrs.	9	6	15	(1.0)
5-9 yrs.	3	1	4	(0.3)
10-14 yrs.	3	0	3	(0.2)
15-19 yrs.	8	0	8	(0.5)
20-29 yrs.	277	57	334	(21.2)
30-39 yrs.	622	36	658	(41.8)
40-49 yrs.	375	12	387	(24.6)
50-59 yrs.	103	9	112	(7.1)
≥ 60 yrs.	21	4	25	(1.6)
Unknown	13	0	13	(0.8)
Total	1,440	133	1,573	(100.0)

TABLE 4. Acquired immunodeficiency syndrome cases, by patient risk group and geographic origin — 21 European countries, through September 30, 1985

Patient risk group	Origin				Total	
	Europe	Caribbean Islands	Africa	Other	No.	(%)
1. Male homosexual or bisexual	1,031	4	11	39	1,085	(69)
2. IV drug abuser	90	-	-	-	90	(6)
3. Hemophilia patient	52	-	-	1	53	(3)
4. Transfusion recipient (without other risk factors)	30	-	5	-	35	(2)
5. 1- and 2-associated	21	-	1	2	24	(2)
6. No known risk factor						
Male	59	24	81	3	167	(11)
Female	31	10	43	-	84	(5)
7. Unknown	16	1	16	2	35	(2)
Total	1,330 (85%)	39 (2%)	157 (10%)	47 (3%)	1,573	(100)

AIDS — Continued

Chili, Nicaragua, Peru, and Uruguay. One patient each originated from Australia, Egypt, Lebanon, New Zealand, Pakistan, Thailand, and Turkey; the origins of four were unknown. Fourteen of these patients were not living in Europe before the onset of the first symptoms (the United States—10; Canada and Africa—one each; unknown—two).

Among the 47 patients, 39 were homosexual; two were both homosexual and IV drug abusers (one Canadian diagnosed in the United Kingdom and one American diagnosed in Spain). One American diagnosed in Sweden had hemophilia. Two did not present any risk factors. Information was not obtained in three cases.

DISTRIBUTION BY RISK GROUP

It is not possible to compare precisely the situations in the various European countries because of differences that may exist in the methods of data collection. Furthermore, in countries where AIDS is still rare, distribution may be modified with the increase in number of cases. However, some observations can be made:

Male homosexuals. AIDS patients belonging to this risk group accounted for 60%-100% of the total number of cases in 12 of 16 countries. In four other countries (Belgium, Greece, Italy, and Spain), male homosexuals accounted for fewer than 50% of cases.

IV drug abusers. The spread of AIDS in Europe has been particularly marked in this group. In October 1984, IV drug abusers represented only 2% of the total number of European cases and were reported by three countries. By September 30, 1985, they represented 8% of all European cases and were reported by nine countries, a significant increase ($p < 0.001$). Italy and Spain together accounted for 63% of the IV drug abusers with AIDS in Europe. Forty-five (49%) of the 92 Italian patients and 23 (37%) of the 63 Spanish patients were members of this risk group.

Cases related to transfusion of blood and blood products. Ten countries have reported AIDS among hemophilia patients, and six have reported cases among blood transfusion recipients.

Patients not belonging to any of the above risk groups. This group contributed the second largest number of cases. In four countries (Belgium, France, Greece, and Switzerland), a high proportion of patients originated from regions where most AIDS patients have not belonged to any of the above risk groups but where heterosexual transmission is thought to be a major factor. In Belgium, 72% of the patients originated from equatorial Africa; in France, 11% originated from the same region, and 8% from Haiti; in Switzerland, 12% originated from equatorial Africa).

REVIEW OF PUBLIC HEALTH MEASURES RELATED TO BLOOD DONORS

A questionnaire on public health measures related to blood transfusion was sent to the 21 European countries corresponding with the Centre and to Portugal. Except for the Union of Soviet Socialist Republics, all the countries answered this questionnaire.

Systematic screening of blood donors for lymphadenopathy-associated virus/human T-lymphotropic virus type III (LAV/HTLV-III) antibodies became effective in 16 of 21 countries between June and November 1985. In 13 countries, the screening is compulsory. In three others (Italy, the Netherlands, and Sweden), this screening is recommended rather than compulsory, but the public health authorities of these countries consider that the recommendation is followed and all blood donations are tested.

The test used in these countries is the enzyme-linked immunosorbent assay (ELISA). The follow-up tests used are mainly a second ELISA with an immunoblot (Western blot) or immunofluorescence test. Portugal is the only country that does not yet use a follow-up test. The follow-up test is recommended in six countries (Denmark, Greece, Italy, the Netherlands, Sweden, and Switzerland). In the other nine countries, the follow-up test is compulsory.

AIDS - Continued

Among the 16 countries that have taken measures related to blood donors, only Portugal has organized a national register of seropositive blood donors for whom confidentiality has been ensured. A national register is under consideration in Norway.

Specialized consultations for the follow-up of seropositive subjects are organized or are being organized in 11 of 16 countries (Austria, Belgium, Denmark, the Federal Republic of Germany, France, Italy, Luxembourg, Norway, Sweden, Switzerland, and the United Kingdom). In Finland, seropositive subjects are followed up by their usual physicians. Specialized consultations are under consideration in four countries (Greece, Hungary, the Netherlands, Portugal).

Information for seropositive subjects is systematic in five of 16 countries (Denmark, Finland, Greece, the Netherlands, and Switzerland) and recommended in 10 countries (Austria, Belgium, the Federal Republic of Germany, France, Hungary, Italy, Luxembourg, Norway, Sweden, and the United Kingdom). No official recommendation concerning information to seropositive subjects has been made in Portugal. Systematic screening of blood donors is under consideration in five countries (Czechoslovakia, Iceland, Poland, Spain, and Yugoslavia).

Eighteen countries have a national reference center for confirmation. Luxembourg is, and Iceland will be, using a reference center in a neighboring country. Portugal has not made a decision on this subject yet.

Measures to exclude donors at risk have been taken in all the countries except Czechoslovakia, Finland, and Portugal. These measures were initiated in 1983 for seven countries (Belgium, Denmark, France, the Netherlands, Norway, Sweden, and the United Kingdom); in 1984 for Luxembourg; in 1985 for Austria, Greece, Iceland, Italy, Poland, Spain, and Yugoslavia. No date was given for Hungary.

EDITORIAL COMMENTS BY THE WHO CENTRE

Prevention of AIDS transmission through blood transfusion is now effective in most European countries due to systematic screening for LAV/HTLV-III antibodies in blood donors. Even in countries where no cases of AIDS have been officially reported, the establishment of screening programs is being studied; in Hungary, screening is already compulsory.

As in the United States, male homosexuals account for the highest percentage of the total number of cases (69%). The distribution by risk group shows a marked increase in cases among drug abusers, accounting for 2% of 421 European cases by July 1984, and 8% of the 1,573 cases reported by September 1985. Over 40% of the cases in Italy and Spain occurred in this group. Several 1985 studies in various European countries showed a high frequency (20%-50%) of serologic markers of infection with LAV/HTLV-III in IV drug abusers, indicating that the spread of the infection has been rapid in this population. Information campaigns that are being set up should emphasize this aspect of the spread of AIDS.

Surveillance of AIDS in Europe was set up progressively in 1982; case-fatality rates obtained before 1982 cannot be included in the present surveillance data because of an unknown proportion of patients lost to follow-up.

The Centre uses the CDC case definition. One source per country, recognized by the respective national health authorities, provides the information. The national data are noted on standard tables, and each source is responsible for the quality of the data provided. Hungary, the Union of Soviet Socialist Republics, and Yugoslavia now also collaborate with the Centre.

The number of cases diagnosed between January and September 1985 must be considered as provisional because of the time required for reports to reach national surveillance centers.

Reported by JB Brunet, MD, R Ancelle, MD, Institut de Médecine et d'Épidémiologie Africaines et Tropicales (WHO Collaborating Centre on AIDS), Paris, France; Federal Ministry of Health and Environmental Protection, Vienna, Austria; Conseil Supérieur de l'Hygiène Publique, Ministère de la Santé, Brussels, Belgium; Institute of Virology, Bratislava, Czechoslovakia; Statens Serum Institute, Copenhagen, Denmark;

AIDS — Continued

Institute of Biomedical Sciences, Tampere, Finland; Direction Générale de la Santé, Paris, France; Robert Koch Institute, West Berlin, Federal Republic of Germany; Ministry of Health, Athens, Greece; National Institute of Hygiene, Budapest, Hungary; General Direction of Public Health, Reykjavik, Iceland; Istituto Superiore di Sanità, Rome, Italy; Ministère de la Santé, Luxembourg, Luxembourg; Staatstoezicht op de Volksgezondheid, Leiden, Netherlands; National Institute of Public Health, Oslo, Norway; National Institute of Hygiene, Warsaw, Poland; Ministerio de Sanidad y Consumo, Madrid, Spain; National Bacteriological Laboratory, Stockholm, Sweden; Office Fédérale de la Santé Publique, Berne, Switzerland; Communicable Disease Surveillance Centre, London, United Kingdom; Ministry of Public Health, Moscow, Union of Soviet Socialist Republics; Federal Institute of Public Health, Belgrade, Yugoslavia.

Reference

1. CDC. AIDS weekly surveillance report. September 30, 1985.

Current Trends

Update: Influenza Activity — United States — and the Role of Rapid Virus Typing in Improving Amantadine Use

Between December 30, 1985, and January 13, 1986, 27 (36%) of 74 elderly residents in a San Joaquin County, California, nursing home developed influenza-like illnesses.* Influenza virus type B was isolated from two of the five ill residents tested. This is the first report of a nursing-home outbreak this season associated with type B virus; an earlier report described outbreaks associated with type A(H3N2) virus in health-care facilities for elderly patients in New York (1).

Nine additional states have reported their first influenza virus isolations for the season. Type B virus has been reported from Alabama, Florida, Idaho, Louisiana, Missouri, New Jersey, and Oregon; type A(H3N2) virus has been reported from New Mexico and Oklahoma. In New York and Nevada, where type A(H3N2) virus had been reported previously this season, type B virus was also reported. The season's first influenza virus isolates have also been reported from sporadic cases in New York City; type A(H3N2) viruses have been isolated from residents of Brooklyn and the Bronx.

Tallies of patients† with influenza-like illnesses seen by sentinel physicians nationwide increased from an average of 6.1 for the reporting week ending January 1, 1986, to an average of 8.4 for the week ending January 8. Similar increases have been observed in recent seasons concurrently with the spread of influenza outbreaks.

The percentages of deaths from the 121 cities that were associated with pneumonia and influenza were 5.7% and 6.0% for the weeks ending January 11 and January 18, compared with the range of 4.9%-5.4% for the 4 preceding weeks.

Reported by State and Territorial Epidemiologists; State Laboratory Directors; W Owings, MD, Centre-ville, Alabama; D Pates, MD, Rupert, Idaho; J Clark, M Earling, MD, Sunrise Hospital, R Weisner, MD, Las Vegas, Nevada; K Bromberg, MD, Kings County Hospital, I Spigland, MD, Montefiore Hospital, New York City; S Lipson, PhD, K Szabo, MD, Virus Laboratory, Naussau County, New York; participating physicians of the American Academy of Family Physicians; Statistical Svcs Br, Div of Surveillance and Epidemiologic

*Fever of 37.7 C (100 F) or higher and one or more respiratory symptoms. Approximately 20% of the 100 staff also had febrile respiratory illnesses slightly before or during the outbreak among residents.

†Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Influenza — Continued

Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The antiviral drug, amantadine hydrochloride, is highly effective in preventing illness caused by influenza type A viruses and has been recommended by the Immunization Practices Advisory Committee (ACIP) as an adjunct to vaccination in the control of influenza A infections (2). Amantadine is not effective against influenza type B viruses or other respiratory pathogens. Although amantadine seldom causes serious side effects in healthy, younger adults, it is more likely to cause troublesome side effects in older persons. When the normal adult dose of 200 mg daily has been reduced to 100 mg in individuals 65 years of age or older, as recommended by the ACIP, the incidence and severity of side effects has decreased substantially; however, particularly for older individuals, it is undesirable to administer amantadine over the several weeks required to prevent possible spread or reintroduction of influenza A viruses once the first evidence for an outbreak is detected, if the outbreak is actually due to influenza B or another respiratory pathogen.

The ability to rapidly diagnose influenza A infections would provide greater confidence in the use of amantadine for early treatment and prophylaxis of such cases, particularly when both type A and B influenza viruses are circulating. Nasopharyngeal specimens properly collected from residents and/or staff members within the first 1-3 days of illness before administration of amantadine can be tested using fluorescent microscopy and recently developed monoclonal antibody reagents (3,4) to determine within 1 day whether or not influenza type A viruses are responsible for the outbreak. An alternative strategy would be to administer amantadine for 3 days to high-risk patients of an institution when an outbreak is beginning, and at the same time, obtain rapid virus culture confirmation by detecting antigen synthesized within 72 hours of inoculation of cell culture (5). In such a case, amantadine could be discontinued if either the outbreak continued to spread to amantadine-treated individuals and/or the laboratory diagnosis identified influenza B rather than influenza A viruses. Confirmation of influenza A infection would justify continued use of amantadine until risk of infection was over. Influenza A- and B-specific reagents for rapid virus typing have been distributed by CDC to all state health departments and other collaborating laboratories before the influenza season, although not all such laboratories may have established the diagnostic procedures referred to above.

References

1. CDC. Update: influenza activity—United States, worldwide. *MMWR* 1986;35:28-9.
2. ACIP. Prevention and control of influenza. *MMWR* 1985;34:261-8, 273-5.
3. Gardner PS, McQuillin J. Rapid virus diagnosis. Application of immunofluorescence. 2nd ed. London: Butterworth & Co., 1980.
4. McQuillin J, Madeley CR, Kendal AP. Monoclonal antibodies for the rapid diagnosis of influenza A and B virus infections by immunofluorescence. *Lancet* 1985;II:911-4.
5. Walls HH, Harmon MW, Slagle JJ, et al. Characterization and evaluation of monoclonal antibodies developed for typing influenza A and influenza B viruses. *J Clin Micro* 1986 (in press).

FIGURE 1. Reported measles cases — United States, weeks 51-52, 1985 — week 2, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21038 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

MMWR

49 Worker Fatalities due to Excavation
Cave-Ins
51 Dengue — the Americas, 1984
58 Update: Influenza Activity — United
States

NEWARK PUBLIC LIBRARY

MORBIDITY AND MORTALITY WEEKLY REPORT

MAR 13 1986

Epidemiologic Notes and Reports

U. S. GOVT. PUBL.
DEPOSITORY 376

Worker Fatalities due to Excavation Cave-Ins

Worker fatalities due to excavation cave-ins in four states have recently been investigated by the National Institute for Occupational Safety and Health (NIOSH) as part of its Fatal Accident Circumstances and Epidemiology (FACE) project. Brief reports follow.

On February 25, 1985, a 22-year-old laborer in Georgia was manually digging a dry well and an 8-foot-deep trench for a drainage-pipe connection. One wall of the trench collapsed, covering him with 6 feet of soil. He was apparently dead at the scene. None of the walls in the excavated area were shored (braced) or sloped appropriately.

On March 24, 1985, a 45-year-old "lead man" on a construction crew in Arizona was shoveling loose dirt from the bottom of a 21-foot excavation. He was preparing it for the placement of a fabricated trench shield. As soil began falling from a side wall, the worker tried to leave the site, but the soil gave way, covering him. He died during surgery approximately 6 hours after the cave-in. The vertical walls of this excavation had not been shored.

On May 3, 1985, a 33-year-old field foreman on a construction site in Pennsylvania was standing in a vertical-walled excavation approximately 7 feet deep. One wall caved in, knocking him to the ground and burying him. Efforts to revive him at the scene were unsuccessful. The walls of the excavation had not been shored.

On August 8, 1985, a two-man crew in Ohio was using a backhoe* in an 11- to 12-foot-deep excavation to cut a lateral trench off an 8-inch sewer main. One of the crew, a 62-year-old laborer, was killed when the trench wall collapsed, covering him with 3 feet of soil. The sides of the trench had not been shored.

NIOSH investigators determined that neither the relevant Occupational Safety and Health Administration (OSHA) standards nor the NIOSH-recommended work practices for such excavations had been adhered to in any of these cases. The current OSHA standards† specify that:

1. The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.
2. Sides of trenches in unstable or soft material 5 feet or more in depth shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect employees working within them.
3. Excavations (including trenches) adjacent to backfilled areas or subjected to vibrations from railroads, highway traffic, or operation of machinery shall have additional shoring and bracing precautions taken.

*An excavation machine with a mechanical arm that operates back toward the worker.

†29 CFR 1926.651 and 1926.652.

Excavation Cave-Ins - Continued

NIOSH and the National Bureau of Standards (NBS) recommend that:

1. Shoring systems or sloping of the walls be used in all excavations 5-24 feet deep in any type of soil, except solid, stable rock.
2. Appropriate shoring, shielding, or sloping requirements for all excavations deeper than 24 feet (except those in unfractured rock) be determined by an engineer qualified to make these determinations.
3. All employers engaged in excavation activities familiarize themselves with the provisions of the NBS/NIOSH document, *Development of Draft Construction Safety Standards for Excavations* (1) and implement them as safe work practices in conjunction with compliance to the existing OSHA standards.

The investigations further determined that compliance with the relevant OSHA standards or adherence to the NIOSH-recommended work practices regarding excavations would have reduced the inherent risk in each of the four reported fatal incidents.

Reported by Injury Surveillance Br, Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Excavation cave-ins often cause serious and fatal injuries to U.S. workers. Analysis of workers' compensation claims for 1976-1981 (2) in the Supplementary Data System of the Bureau of Labor Statistics suggests that excavation cave-ins caused approximately 1,000 work-related injuries per year. Of these, approximately 140 resulted in permanent disability, and 75 were fatal. Thus, this type of incident is an important cause of occupational deaths, and accounts for nearly 1% of all work-related deaths reported annually in the United States.

To clarify prior OSHA regulations, NBS and NIOSH have developed recommendations establishing a requirement to provide protection in excavations 5 feet deep or greater, regardless of soil type. These recommendations also present a simplified soil-classification system for use in determining appropriate side-sloping requirements and for calculating the lateral soil pressures imposed on shoring systems.

The principal objective of investigations undertaken by NIOSH as part of its FACE project is to determine what factors allowed the fatality to occur and how such fatalities can be prevented. Whether an operation was in compliance with existing mandatory standards is only one of many variables that may have contributed to the fatality. Evidence of noncompliance in the four incidents described above suggests that employers are either (1) unaware of the existence of the OSHA standards or (2) misinterpreting the requirements of the standards. As an obvious first step in preventing such fatalities, all such operations should be done in full compliance with existing OSHA standards.

NIOSH urges safety and trade associations, underground-utility companies, and municipalities and other local governments responsible for underground-utility services, as well as state OSHA consultative services to bring these recommendations to the attention of employers engaged in excavations.

Suggestions, requests for additional information on safe work practices, or questions related to this announcement should be directed to Director, Division of Safety Research, National Institute for Occupational Safety and Health, 944 Chestnut Ridge Road, Morgantown, West Virginia 26505; telephone (304) 291-4595.

References

1. National Institute for Occupational Safety and Health/National Bureau of Standards. Development of draft construction safety standards for excavations, Vols. I and II. NBSIR 83-2693. DHHS (NIOSH) publication no. 83-103.
2. U.S. Department of Labor, Bureau of Labor Statistics. Supplementary data system. Unpublished injury and fatality data for 1976-1981.

*International Notes***Dengue — the Americas, 1984**

In 1984, dengue activity in the Americas remained at a relatively low level, with 43,435 cases reported from 20 countries (Table 1). Three dengue serotypes (DEN-1, DEN-2, and DEN-4) circulated in the region (Figure 1).

Mexico had the greatest activity, with 27,312 cases reported, and experienced its first cases of severe hemorrhagic disease with dengue-associated fatalities in 1984. Three serotypes were involved, DEN-1 and DEN-2 on the west coast and DEN-1 and DEN-4 in Yucatán. Dengue hemorrhagic fever (DHF) occurred in Puerto Vallarta, Jalisco, and in Merida, Yucatán. The outbreak in Yucatán included 5,390 reported cases and was caused by DEN-4. Nine patients had hemorrhagic disease, and four died. DEN-4 was isolated from one patient who died and from two of the other patients with hemorrhagic fever. Five others were confirmed by IgM-capture enzyme-linked immunosorbent assay and/or hemagglutination-inhibition and complement fixation tests, and one could not be confirmed.

In Central America, Belize, El Salvador, and Honduras each reported dengue activity. DEN-1 virus was isolated from cases during a small outbreak in Belize. In Honduras, both DEN-1 and DEN-2 virus transmission were confirmed, but disease occurrence was only sporadic.

TABLE 1. Reported dengue cases, by country — the Americas, 1984

Location	Date of last reported case	Total reported cases	Virus serotype
Aruba	December	12,000*	DEN-1
Barbados	December	63	
Belize	December	137	DEN-1
Colombia	December	Unknown	DEN-1, 4
Dominican Republic	June	260	DEN-1, 4
El Salvador	September	560	
Guyana	December	Sporadic	
Grenada	December	3	
Guadeloupe	December	339	
Haiti	September	328	DEN-1, 2
Honduras	December	378	DEN-1, 2
Jamaica	December	12	
Martinique	December	Sporadic	
Mexico	December	27,312	DEN-1, 2, 4
Puerto Rico	December	1,872	DEN-1, 2
St. Christopher-Nevis	December	1	
Trinidad & Tobago	December	31	DEN-1, 2, 4
United States	December	67†	DEN-1, 3
U.S. Virgin Islands	December	72	DEN-1
Venezuela	December	Unknown	DEN-1, 2
Total		43,435	DEN-1, 2, 3, 4

*Estimated.

†Imported cases only.

Dengue — Continued

In most of the Caribbean islands, the extent of dengue virus transmission was limited in 1984. DEN-1 and DEN-4 transmission was confirmed in the Dominican Republic, while Haiti had confirmed cases of both DEN-1 and DEN-2. Puerto Rico reported 1,872 clinical cases, but only six were confirmed. In Puerto Rico, DEN-1 and DEN-2 viruses were isolated for the first time since 1982 and 1978, respectively. Three cases of DEN-1 were confirmed in the U.S. Virgin Islands. A large outbreak of DEN-1 occurred in Aruba, the Netherlands Antilles, beginning in December 1984. Two fatal cases of hemorrhagic disease were reported, one of which was confirmed as DEN-1 by virus isolation. Low-level DEN-1, DEN-2, and DEN-4 transmission was confirmed in Trinidad. Other Caribbean islands reported sporadic transmission, but the virus serotypes are not known.

In South America, Colombia confirmed cases of DEN-1 and DEN-4, and Venezuela confirmed cases of DEN-1 and DEN-2. Neither country reported major epidemic activity in 1984.

(Continued on page 57)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	4th Week Ending			Cumulative, 4th Week Ending		
	Jan. 25, 1986	Jan. 26, 1986	Median 1981-1985	Jan. 25, 1986	Jan. 26, 1986	Median 1981-1985
Acquired immunodeficiency Syndrome (AIDS)	201	80	N	859	357	N
Aseptic meningitis	95	69	92	299	275	337
Encephalitis: Primary (arthropod-borne & unsp.)	15	13	15	53	49	59
Post-infectious	3	3	1	3	9	7
Gonorrhea: Civilian	16,525	16,396	17,703	60,384	57,792	73,530
Military	339	211	404	965	1,070	1,990
Hepatitis: Type A	486	370	424	1,536	1,298	1,420
Type B	437	419	419	1,563	1,461	1,461
Non A, Non B	36	83	N	182	264	N
Unspecified	136	70	145	346	274	520
Legionellosis	9	30	N	34	56	N
Leprosy	11	1	2	27	10	10
Malaria	11	20	13	42	40	46
Measles: Total*	16	8	8	54	33	34
Indigenous	16	1	N	51	16	N
Imported	-	7	N	3	17	N
Meningococcal infections: Total	51	55	67	196	168	222
Civilian	51	55	67	196	168	215
Military	-	-	-	-	-	1
Mumps	30	55	92	120	181	304
Pertussis	19	34	20	100	89	65
Rubella (German measles)	10	3	12	19	17	51
Syphilis (Primary & Secondary): Civilian	454	644	644	1,568	1,708	2,270
Military	-	2	11	9	12	32
Toxic Shock syndrome	2	6	N	13	24	N
Tuberculosis	428	387	387	1,048	1,066	1,278
Tularia	2	2	1	6	10	9
Typhoid fever	12	1	6	19	7	29
Typhus fever, tick-borne (RMSF)	2	-	2	4	1	6
Rabies, animal	89	43	83	291	238	320

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986	Cum 1986
Anthrax	-	5
Botulism: Foodborne	-	-
Infant (N. Mex. 1)	4	-
Other	-	-
Brucellosis (Calif. 1)	4	1
Cholera	-	-
Congenital rubella syndrome	1	2
Congenital syphilis, ages < 1 year	-	7
Diphtheria	-	-
Leptospirosis	-	-
Plague	-	-
Poliomyelitis, Paralytic	-	-
Psittacosis	-	-
Rabies, human	-	-
Tetanus	-	-
Trichinosis (N.H. 2; Mass. 1)	-	-
Typhus fever, flea-borne (endemic, murine)	-	-

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
January 25, 1986 and January 26, 1985 (4th Week)

Reporting Area	AIDS	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral, by type)				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	859	95	53	3	60,384	57,792	486	437	38	138	9	27
NEW ENGLAND	20	2	2	-	1,288	2,047	5	29	2	6	-	-
Maine	1	1	-	-	74	86	-	5	-	-	-	-
N.H.	1	-	1	-	29	39	1	-	-	-	-	-
Vt.	1	-	-	-	18	20	-	1	-	-	-	-
Mass.	9	-	1	-	546	871	3	17	2	6	-	-
R.I.	3	1	-	-	104	170	-	5	-	-	-	-
Conn.	5	-	-	-	517	1,061	1	1	-	-	-	-
MID ATLANTIC	279	10	7	-	12,430	7,888	35	33	3	3	-	4
Upstate N.Y.	19	6	3	-	1,028	695	30	25	-	2	-	-
N.Y. City	179	-	3	-	8,443	3,318	1	2	-	-	-	4
N.J.	49	4	-	-	975	1,151	4	6	3	1	-	-
Pa.	32	-	1	-	1,984	2,724	-	-	-	-	-	-
E.N. CENTRAL	54	17	11	-	8,384	6,898	17	47	1	6	4	1
Ohio	25	10	6	-	2,638	2,511	10	26	-	5	3	-
Ind.	4	2	-	-	1,493	479	3	4	-	-	-	-
Ill.	15	1	-	-	1,196	1,244	-	-	-	-	-	-
Mich.	10	4	5	-	2,544	2,389	4	17	1	1	1	1
Wis.	-	-	-	-	513	75	-	-	-	-	-	-
W.N. CENTRAL	24	3	-	1	2,838	3,381	19	26	1	1	2	1
Minn.	14	1	-	-	479	419	3	2	1	-	-	-
Iowa	2	-	-	-	338	340	3	2	-	-	1	-
Mo.	4	1	-	-	1,426	1,528	3	14	-	1	1	-
N. Dak.	1	-	-	-	38	21	-	-	-	-	-	-
S. Dak.	-	-	-	-	49	71	3	-	-	-	-	-
Nebr.	1	1	-	-	112	391	-	4	-	-	-	-
Kans.	2	-	-	1	396	611	7	4	-	-	-	1
S. ATLANTIC	151	26	11	2	11,735	12,324	36	72	4	5	2	-
Del.	6	1	2	-	269	298	-	4	-	-	-	-
Md.	14	2	5	-	1,364	1,509	-	-	-	-	-	-
D.C.	18	1	-	-	1,203	938	-	1	-	-	-	-
Va.	10	12	1	1	1,279	1,448	2	13	-	-	1	-
W. Va.	-	1	-	-	189	204	-	2	1	-	-	-
N.C.	4	2	2	-	2,027	2,491	-	12	-	3	-	-
S.C.	8	-	-	-	1,515	1,630	4	8	-	-	1	-
Ge.	2	1	-	-	-	-	9	10	-	-	-	-
Fla.	89	6	1	1	3,889	3,706	21	22	3	2	-	-
E.S. CENTRAL	17	4	7	-	5,070	5,329	2	36	1	-	-	-
Ky.	5	-	2	-	581	580	1	1	-	-	-	-
Tenn.	9	3	1	-	1,995	2,152	1	24	-	-	-	-
Ala.	-	1	4	-	1,339	1,634	-	11	1	-	-	-
Miss.	3	-	-	-	1,155	983	-	-	-	-	-	-
W.S. CENTRAL	93	7	-	-	8,023	9,711	45	15	2	12	1	-
Ark.	5	-	-	-	814	996	-	-	-	-	-	-
La.	14	1	-	-	1,338	1,955	3	-	-	-	-	-
Okl.	2	1	-	-	894	954	7	2	1	-	1	-
Tex.	72	5	-	-	4,977	5,806	35	13	1	12	-	-
MOUNTAIN	12	5	2	-	1,793	2,080	28	17	2	10	-	-
Mont.	-	-	-	-	51	67	2	1	-	-	-	-
Idaho	1	-	-	-	30	69	-	1	-	-	-	-
Wyo.	2	-	-	-	34	46	-	-	-	-	-	-
Colo.	1	1	-	-	389	630	4	4	2	5	-	-
N. Mex.	1	1	-	-	208	280	7	1	-	-	-	-
Ariz.	2	-	1	-	572	542	-	-	-	-	-	-
Utah	1	2	1	-	81	104	11	4	-	5	-	-
Nev.	4	1	-	-	428	342	4	6	-	-	-	-
PACIFIC	209	21	13	-	8,823	8,334	299	162	20	93	-	21
Wash.	14	-	-	-	457	670	23	10	6	4	-	-
Oreg.	6	-	-	-	354	520	82	13	3	-	-	-
Calif.	186	16	12	-	7,663	6,833	193	136	9	88	-	21
Alaska	-	-	1	-	249	244	-	-	-	-	-	-
Hawaii	3	5	-	-	100	117	1	3	2	1	-	-
Guam	-	U	-	-	-	6	U	U	U	U	U	-
P.R.	-	U	-	-	157	331	-	3	-	1	-	-
V.I.	-	U	-	-	8	29	U	U	U	U	U	-
Pac. Trust Terr.	-	U	-	-	-	72	U	U	U	U	U	-
Amer. Samoa	-	U	-	-	-	-	U	U	U	U	U	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 25, 1986 and January 26, 1985 (4th Week)

Reporting Area	Malaria		Measles (Rubella)				Meningococcal Infections	Mumps		Pertussis			Rubella		
			Indigenous		Imported *	Total									
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	42	16	51	-	3	33	196	30	120	19	100	89	10	19	17
NEW ENGLAND	-	-	-	-	-	-	14	1	3	1	6	1	-	-	2
Maine	-	-	-	-	-	-	4	-	-	-	1	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	1	-	2	-	-	-	1
Vt.	-	-	-	-	-	-	4	-	-	-	-	1	-	-	-
Mass.	-	-	-	-	-	-	2	-	-	-	2	-	-	-	-
R.I.	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-
Conn.	-	-	-	-	-	-	3	-	-	1	1	-	-	-	-
MID ATLANTIC	6	8	11	-	2	-	22	2	8	3	23	16	4	5	4
Upstate N.Y.	-	-	-	-	2	-	5	1	4	2	16	5	4	5	-
N.Y. City	3	8	11	-	-	-	8	-	-	-	-	4	-	-	3
N.J.	2	-	-	-	-	-	2	-	2	-	-	-	-	-	1
Pa.	1	-	-	-	-	-	7	1	2	1	7	7	-	-	-
E.N. CENTRAL	1	-	-	-	-	14	23	14	52	4	17	30	-	1	-
Ohio	1	-	-	-	-	-	13	-	9	4	11	8	-	-	-
Ill.	-	-	-	-	-	-	4	-	-	-	3	8	-	-	-
Mich.	-	-	-	-	-	1	-	6	29	-	-	2	-	-	-
Wis.	-	-	-	-	-	-	6	8	14	-	1	1	-	-	-
						13					2	11	-	1	
W.N. CENTRAL	-	2	24	-	-	-	12	1	9	1	10	3	-	-	4
Minn.	-	-	-	-	-	-	-	-	-	-	5	1	-	-	-
Iowa	-	-	-	-	-	-	3	-	3	-	2	-	-	-	-
Mo.	-	-	-	-	-	-	4	-	1	-	-	-	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	2	24	-	-	-	2	1	5	1	3	1	-	-	4
S. ATLANTIC	7	-	-	-	-	-	29	3	18	3	14	6	-	-	1
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	1	-	-	-	-	-	2	-	2	-	4	1	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Va.	5	-	-	-	-	-	2	1	4	-	2	-	-	-	-
W. Va.	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-
N.C.	1	-	-	-	-	-	5	-	1	1	5	2	-	-	-
S.C.	-	-	-	-	-	-	6	1	2	-	1	-	-	-	1
Ge.	-	-	-	-	-	-	4	-	1	1	1	-	-	-	-
Fla.	-	-	-	-	-	-	10	1	1	1	1	3	-	-	-
E.S. CENTRAL	1	-	-	-	-	-	18	1	3	1	5	2	-	1	1
Ky.	1	-	-	-	-	-	9	-	2	-	1	-	-	1	1
Tenn.	-	-	-	-	-	-	3	1	1	-	1	1	-	-	-
Ala.	-	-	-	-	-	-	6	-	-	1	3	1	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	6	1	2	-	-	9	-	-	1
Ark.	-	-	-	-	-	-	-	-	-	-	-	6	-	-	1
La.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	2	N	N	-	-	3	-	-	-
Tex.	-	-	-	-	-	-	3	1	2	-	-	-	-	-	-
MOUNTAIN	-	-	1	-	-	10	12	2	9	2	11	2	-	-	-
Mont.	-	-	-	-	-	10	2	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
N. Mex.	-	-	1	-	-	-	2	N	N	2	5	1	-	-	-
Ariz.	-	-	-	-	-	-	4	-	6	-	3	1	-	-	-
Utah	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Nev.	-	-	-	-	-	-	2	1	1	-	-	-	-	-	-
PACIFIC	27	6	15	-	1	9	60	5	16	4	14	20	6	12	4
Wash.	1	-	-	-	-	1	8	-	-	-	5	1	-	-	-
Oreg.	1	-	-	-	-	-	5	N	N	-	-	4	-	-	-
Calif.	25	5	14	-	1	7	45	4	15	3	8	15	6	12	4
Alaska	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Hawaii	-	1	1	-	-	1	-	1	1	1	1	-	-	-	-
Guam	-	U	-	U	-	7	-	U	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	15	-	-	2	1	2	1	-	-	-
V.I.	-	U	-	U	-	1	-	U	-	U	-	-	U	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
January 25, 1986 and January 26, 1985 (4th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1986	Cum. 1985		Cum. 1986	Cum. 1985				
UNITED STATES	1,568	1,708	2	1,048	1,066	6	19	4	291
NEW ENGLAND	48	38	-	25	38	-	1	1	-
Maine	3	1	-	6	2	-	-	-	-
N.H.	1	1	-	-	3	-	-	-	-
Vt.	1	-	-	1	-	-	-	-	-
Mass.	25	20	-	7	22	-	1	1	-
R.I.	1	-	-	-	6	-	-	-	-
Conn.	17	16	-	11	5	-	-	-	-
MID ATLANTIC	250	229	-	215	256	-	1	-	39
Upstate N.Y.	14	11	-	31	27	-	-	-	5
N.Y. City	166	143	-	114	142	-	1	-	-
N.J.	49	44	-	43	11	-	-	-	-
Pa.	21	31	-	27	76	-	-	-	34
E.N. CENTRAL	43	89	-	165	123	-	2	-	7
Ohio	7	10	-	21	27	-	-	-	-
Ind.	18	6	-	14	14	-	-	-	1
Ill.	9	55	-	87	80	-	-	-	-
Mich.	6	14	-	33	18	-	2	-	2
Wis.	3	4	-	10	4	-	-	-	4
W.N. CENTRAL	17	16	1	12	24	4	-	-	27
Minn.	3	2	-	2	2	-	-	-	-
Iowa	3	3	-	2	10	1	-	-	9
Mo.	9	7	-	6	5	3	-	-	1
N. Dak.	2	-	-	2	1	-	-	-	17
S. Dak.	-	-	-	-	1	-	-	-	-
Nebr.	-	1	-	-	2	-	-	-	-
Kans.	-	3	-	-	3	-	-	-	-
S. ATLANTIC	341	388	1	213	194	1	-	1	57
Del.	1	3	-	-	3	-	-	-	-
Md.	41	38	-	11	15	-	-	-	40
D.C.	19	10	-	14	12	-	-	-	-
Va.	34	26	1	7	-	-	-	-	6
W. Va.	2	-	-	5	10	-	-	-	1
N.C.	37	54	-	38	22	-	-	1	-
S.C.	70	63	-	35	31	-	-	-	2
Ga.	-	-	-	25	26	1	-	-	8
Fla.	137	194	-	78	75	-	-	-	-
E.S. CENTRAL	120	188	-	109	91	1	-	2	17
Ky.	8	6	-	40	21	1	-	1	1
Tenn.	59	20	-	19	23	-	-	-	9
Ala.	53	80	-	50	44	-	-	1	7
Miss.	-	82	-	-	3	-	-	-	-
W.S. CENTRAL	384	383	-	76	75	-	-	-	28
Ark.	19	32	-	19	1	-	-	-	4
La.	66	82	-	45	26	-	-	-	-
Okla.	10	9	-	4	13	-	-	-	4
Tex.	289	260	-	8	35	-	-	-	20
MOUNTAIN	35	73	-	20	15	-	1	-	81
Mont.	-	-	-	-	2	-	-	-	34
Idaho	1	1	-	-	-	-	-	-	-
Wyo.	-	2	-	-	-	-	-	-	38
Colo.	18	20	-	-	-	-	-	-	-
N. Mex.	-	6	-	6	-	-	-	-	1
Ariz.	14	43	-	9	11	-	-	-	8
Utah	2	1	-	-	-	-	1	-	-
Nev.	-	-	-	5	2	-	-	-	-
PACIFIC	330	304	-	213	250	-	14	-	35
Wash.	-	9	-	14	5	-	2	-	-
Oreg.	11	13	-	9	4	-	-	-	-
Calif.	313	276	-	182	216	-	11	-	34
Alaska	-	-	-	-	18	-	-	-	1
Hawaii	6	6	-	8	7	-	1	-	-
Guam	-	-	U	-	2	-	-	-	-
P.R.	57	71	-	20	14	-	-	-	4
V.I.	-	-	U	-	-	-	-	-	-
Pac. Trust Terr.	-	9	U	-	5	-	-	-	-
Amer. Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
January 25, 1986 (4th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	708	504	135	34	12	23	73	S. ATLANTIC	1,358	898	292	80	42	37	52
Boston, Mass.	164	95	41	14	8	17	17	Atlanta, Ga.	159	85	46	14	4	-	4
Bridgeport, Conn.	42	24	13	2	1	2	2	Baltimore, Md.	267	153	66	25	12	11	7
Cambridge, Mass.	32	25	6	1	-	-	4	Charlotte, N.C.	79	48	22	7	1	1	3
Fall River, Mass.	43	37	5	1	-	-	1	Jacksonville, Fla.	111	66	32	5	7	1	6
Hartford, Conn.	60	39	16	1	-	4	9	Miami, Fla.	129	78	34	7	7	3	1
Lowell, Mass.	29	27	2	-	-	-	1	Norfolk, Va.	59	35	16	4	3	1	6
Lynn, Mass.	25	20	5	-	-	-	2	Richmond, Va.	70	39	21	6	1	3	7
New Bedford, Mass.	21	18	2	-	-	-	-	Savannah, Ga.	58	41	11	3	1	2	3
New Haven, Conn.	53	34	12	2	-	5	5	St. Petersburg, Fla.	130	109	17	3	-	1	10
Providence, R.I.	77	66	8	1	1	12	12	Tampa, Fla.	94	57	18	7	4	8	1
Somerville, Mass.	10	8	-	2	-	-	1	Washington, D.C. §	164	150	2	4	2	6	3
Springfield, Mass.	58	40	14	2	1	1	9	Wilmington, Del.	38	27	7	4	-	-	1
Waterbury, Conn.	33	28	3	1	-	1	5								
Worcester, Mass.	61	43	8	7	-	3	5								
MID ATLANTIC	2,997	2,014	588	251	68	75	186	E.S. CENTRAL	813	527	200	42	25	19	47
Albany, N.Y.	62	43	13	2	1	3	1	Birmingham, Ala.	133	77	33	11	9	3	2
Allentown, Pa. §	22	22	-	-	-	-	-	Chattanooga, Tenn.	58	36	16	4	-	2	2
Buffalo, N.Y.	129	88	25	10	3	3	13	Knoxville, Tenn.	103	65	24	7	3	4	8
Camden, N.J.	62	42	16	1	-	5	5	Louisville, Ky.	114	83	24	3	1	3	9
Elizabeth, N.J.	36	25	8	1	2	-	1	Memphis, Tenn.	214	144	49	10	6	5	16
Erie, Pa. †	33	29	3	1	-	-	3	Mobile, Ala.	39	29	6	4	-	-	3
Jersey City, N.J.	48	30	8	9	1	-	-	Montgomery, Ala.	39	27	10	1	-	1	2
N.Y. City, N.Y.	1,502	982	281	165	31	43	63	Nashville, Tenn.	113	66	30	2	6	1	5
Newark, N.J.	75	33	20	15	5	2	5								
Paterson, N.J.	30	21	6	2	-	1	2	W.S. CENTRAL	1,389	943	240	104	53	49	87
Philadelphia, Pa.	499	326	118	28	17	10	46	Austin, Tex.	38	25	8	3	-	2	4
Pittsburgh, Pa. †	56	44	9	2	-	1	5	Baton Rouge, La.	42	32	4	3	2	1	2
Reading, Pa.	42	38	4	-	-	-	12	Corpus Christi, Tex.	42	21	16	1	1	3	4
Rochester, N.Y.	136	97	25	6	4	3	14	Dallas, Tex.	215	124	50	21	9	11	7
Schenectady, N.Y.	27	22	5	-	-	-	3	El Paso, Tex.	88	54	23	9	2	-	9
Scranton, Pa. †	34	25	7	2	-	-	3	Fort Worth, Tex.	94	58	18	11	5	4	9
Syracuse, N.Y.	115	83	22	3	3	4	7	Houston, Tex. §	244	226	1	4	8	5	5
Trenton, N.J.	36	26	5	3	1	1	-	Little Rock, Ark.	89	54	19	3	6	7	10
Utica, N.Y.	22	15	7	-	-	-	2	New Orleans, La.	137	70	25	26	12	5	-
Yonkers, N.Y.	31	23	6	1	-	1	1	San Antonio, Tex.	246	173	46	16	5	6	18
								Shreveport, La.	70	50	15	2	-	3	6
								Tulsa, Okla.	84	58	15	6	3	2	13
EN CENTRAL	2,324	1,656	394	118	63	91	113	MOUNTAIN	757	487	164	56	25	25	52
Akron, Ohio	53	34	13	2	1	3	3	Albuquerque, N. Mex.	87	62	17	4	2	2	5
Canton, Ohio	24	15	7	1	1	-	-	Colo. Springs, Colo.	41	20	8	7	2	4	5
Chicago, Ill. §	553	462	11	28	16	3	16	Denver, Colo.	147	94	34	11	3	5	10
Cincinnati, Ohio	146	100	31	8	4	5	9	Las Vegas, Nev.	132	73	38	15	2	4	10
Cleveland, Ohio	128	77	33	8	2	8	1	Ogden, Utah	22	16	5	-	-	1	3
Columbus, Ohio	131	93	23	4	7	4	4	Phoenix, Ariz.	162	109	32	7	10	4	5
Dayton, Ohio	115	79	27	4	4	1	3	Pueblo, Colo.	15	11	2	2	-	-	2
Detroit, Mich.	288	176	62	26	13	8	6	Salt Lake City, Utah	49	30	11	2	4	2	-
Evansville, Ind.	62	47	10	4	1	-	6	Tucson, Ariz.	102	72	17	8	2	3	12
Fort Wayne, Ind.	73	49	18	2	1	3	7								
Gary, Ind.	16	11	4	1	-	-	-	PACIFIC	2,119	1,505	368	135	61	41	157
Grand Rapids, Mich.	66	50	9	3	2	2	7	Berkeley, Calif.	10	10	-	-	-	-	2
Indianapolis, Ind.	184	113	48	12	5	6	10	Fresno, Calif.	105	74	20	5	4	2	12
Madison, Wis.	32	26	3	-	1	2	2	Glendale, Calif.	25	18	7	-	-	-	3
Milwaukee, Wis.	136	102	22	7	1	4	6	Honolulu, Hawaii	74	50	15	5	3	1	8
Peoria, Ill.	51	33	14	1	1	2	8	Long Beach, Calif.	136	95	29	6	4	2	22
Rockford, Ill.	47	39	5	2	1	-	6	Los Angeles, Calif.	624	427	113	49	21	5	20
South Bend, Ind.	30	17	12	-	-	1	3	Oakland, Calif.	75	52	9	10	-	4	7
Toledo, Ohio	127	95	23	3	1	5	14	Pasadena, Calif.	27	26	-	-	-	1	5
Youngstown, Ohio	62	38	19	4	1	-	1	Portland, Oreg. §	143	137	-	2	2	2	10
								Sacramento, Calif.	155	109	21	14	7	4	13
W.N. CENTRAL	791	536	131	59	33	32	42	San Diego, Calif.	152	104	26	5	9	8	21
Des Moines, Iowa	78	53	13	8	2	2	4	San Francisco, Calif.	168	108	41	14	3	2	7
Duluth, Minn.	27	20	5	-	2	-	-	San Jose, Calif.	161	103	39	14	2	3	18
Kansas City, Kans.	43	26	10	1	3	3	1	Seattle, Wash.	167	115	36	6	5	5	4
Kansas City, Mo.	126	79	30	11	4	1	8	Spokane, Wash.	53	47	6	-	-	-	4
Lincoln, Nebr.	47	32	8	4	3	2	4	Tacoma, Wash.	44	30	6	5	1	2	1
Minneapolis, Minn.	100	66	14	10	2	8	5								
Omaha, Nebr.	85	62	14	4	2	3	5								
St. Louis, Mo.	152	92	24	18	9	9	6	TOTAL	13,256	9,070	2,512	888	382	392	809
St. Paul, Minn.	81	66	9	2	4	-	4								
Wichita, Kans.	53	40	6	1	2	4	5								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

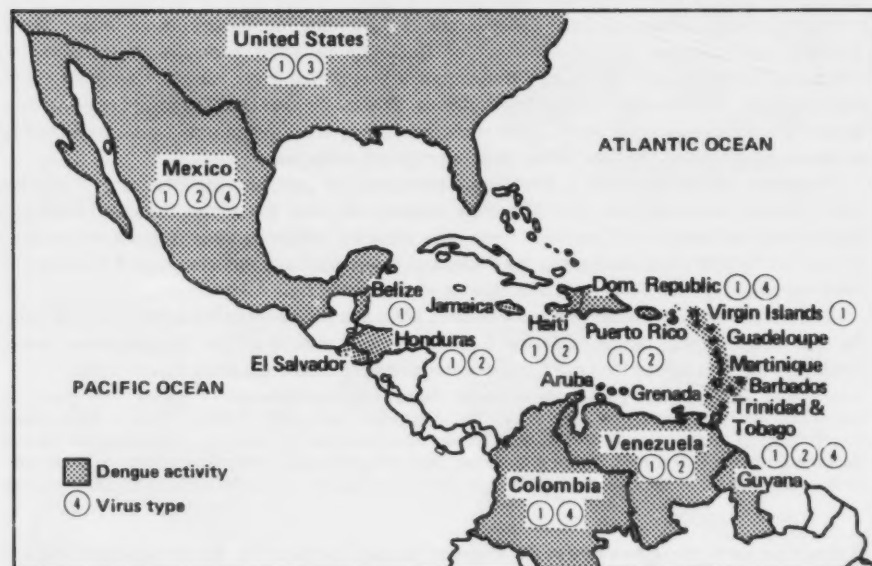
Dengue — Continued

Reported by Pan American Health Organization, Washington, DC; Caribbean Epidemiology Center, Port-of-Spain, Trinidad; Pasteur Institute, Cayenne, French Guiana; Instituto de Salubridad y Enfermedades Tropicales, Mexico City, Mexico; Gorgas Memorial Laboratory, Panama City, Panama; Instituto Nacional de Salud, Bogotá, Colombia; Instituto Nacional de Higiene "Rafael Rangel," Caracas, Venezuela; Puerto Rico Dept of Health, San Juan; Dengue Br, Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Dengue has been endemic in the Americas for over 200 years. Recently, the disease appears to be following a pattern similar to that in Southeast Asia 30 years ago, where many countries began to report increased occurrence of sporadic cases of DHF in association with increased incidence of dengue infection. This was followed by major epidemics of the disease in Southeast Asia, and today, DHF is one of the leading causes of hospitalization and death among children in many countries of that region. A similar sequence of events appears to be occurring in the Americas in the 1980s. For example, Cuba, where no dengue had been reported for 30 years, experienced a DEN-1 epidemic in 1977, followed in 1981 by a major DHF epidemic caused by DEN-2, with 158 fatalities. In 1978, Mexico reported its first cases of dengue in many years, and within 6 years, the disease became endemic in most coastal areas of the country. In 1984 the first DHF cases associated with epidemic dengue were reported.

Other countries in the region have also reported increased occurrence of sporadic cases of DHF. This sequence of events, plus the fact that all four serotypes are now endemic in the region, suggest that Caribbean Basin countries are at risk for outbreaks of DHF and underscore the need for more effective surveillance that will facilitate prevention and control of the disease.

FIGURE 1. Dengue — the Americas, 1984



Current Trends

Update: Influenza Activity — United States

Beginning in mid-January 1986, school outbreaks of influenza-like illness have been reported from many states. Confirmation of influenza as the etiologic agent for most of these outbreaks is not yet available. School outbreaks of influenza type B in Georgia and Iowa provide examples of the rapid spread of influenza among schoolchildren.

In Georgia, during the week ending January 18, type B virus was isolated from four Atlanta-area students in two influenza-like outbreaks at a college and an elementary school, where absenteeism peaked at 30%. During the week ending January 25, outbreaks of influenza-like illness were reported from schools in all areas of Georgia.

In Iowa, during the week ending January 18, seven type B influenza viruses were isolated from nine students among those with influenza-like illnesses in outbreaks in Marion County. Four type B viruses were isolated from 10 students tested in Webster County, and five type B viruses were isolated from four of 11 students tested and from a teacher in a Madison County school outbreak. During the week ending January 25, school outbreaks of influenza-like illness were reported from all areas of Iowa, with absentee rates in many schools in the 15%-25% range.

Influenza type B virus infections do not appear to be restricted to children and working-aged adults. A nursing-home outbreak has now been confirmed in Connecticut from January 3 to January 20, where 37 (32%) of the 115 residents developed influenza-like illnesses. An earlier nursing-home outbreak has been reported (7).

Tallies of patients with influenza-like illnesses seen by sentinel physicians* nationwide continued at intermediate levels averaging 8.0 for the reporting week ending January 8, 1986, and 7.7 for the reporting week ending January 15.

For the week ending January 25, five states (Delaware, Minnesota, New Jersey, North Carolina, and Virginia) and the District of Columbia reported widespread outbreaks of influenza-like illness, and 13 states (Connecticut, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Oklahoma, Oregon, Pennsylvania, Wisconsin, and Utah) reported regional outbreaks. This represents an increase from the preceding week when only Delaware reported widespread outbreaks, and six states reported regional outbreaks.

Arkansas, Connecticut, Iowa, Michigan, Tennessee, Virginia, and the District of Columbia have recently reported their first influenza isolates—all type B—of the season. Thirty-two states and the District of Columbia have now reported influenza virus isolates this season (Figure 2). Twenty-eight states and the District of Columbia have reported type B isolates; 14 have reported type A(H3N2); and one, Hawaii, has reported type A(H1N1).

The percentage of pneumonia and influenza (P&I) deaths reported from the 121 U.S. cities for the week ending January 25 was 6.1%, compared with 6.2% for the preceding week. These are the first weeks that the P&I percentage has reached 6.0% since March 1985.

Reported by State and Territorial Epidemiologists; State Laboratory Directors; N Swack, PhD, State Hygienic Laboratory, University of Iowa, Iowa City; J Patterson, JD Smith, E Weir, T Munro, Div of Public Health, Georgia Dept of Human Resources; E Moses, Virus Laboratory, University of Arkansas for Medical Science, Little Rock; N Fithian, B Jones, M Zweig, Dept of Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut; Statistical Svcs Br, Div of Surveillance and Epidemiolog-

*Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Influenza — Continued

ic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Reference

1. CDC. Update: influenza activity—United States—and the role of rapid virus typing in improving amantadine use. *MMWR* 1986;35:46-7.

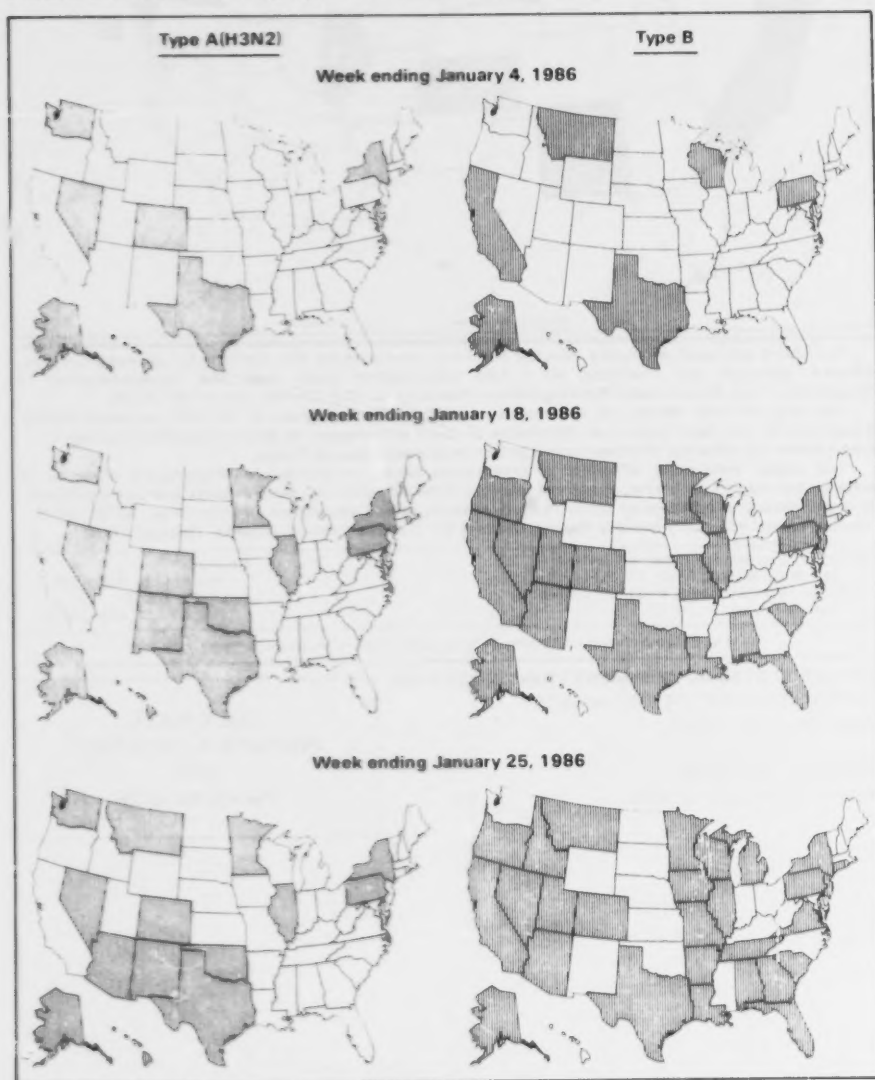
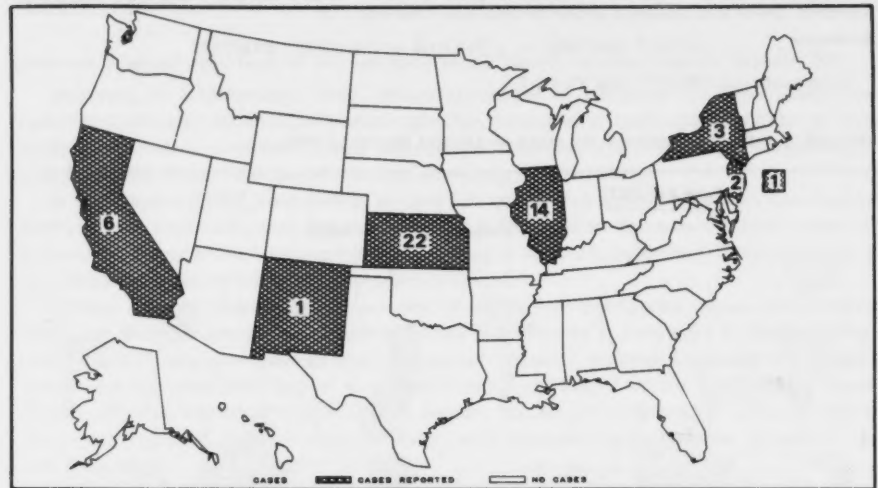
FIGURE 2. Influenza activity, by state — United States, 1986

FIGURE 1. Reported measles cases — United States, week 52, 1985 — week 3, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21039 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DK 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **

2/7/86

CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

February 7, 1986 / Vol. 35 / No. 5

- 61 Homicide — Los Angeles, 1970-1979
- 65 Update: Influenza Activity — United States
- 66 Reye Syndrome — United States, 1985
- 74 Tuberculosis — United States, 1985 — and the Possible Impact of HTLV-III/LAV Infection
- 76 Apparent Transmission of HTLV-III/LAV from a Child to a Mother Providing Health Care

Epidemiologic Notes and Reports

Homicide — Los Angeles, 1970-1979

Since the mid-1950s, the risk of homicide in the city of Los Angeles, California, has increased sixfold (1). The largest 10-year absolute increase (84.0%) occurred from 1970 to 1979, when rates rose from 12.5 per 100,000 population to 23.0/100,000.

During this decade, 4,950 criminal homicides* occurred in Los Angeles, an average rate of 17.1 homicides/100,000 population (2). Homicide victims were most likely to be male and young and of a minority group. Males were almost four times more likely to become homicide victims (27.0/100,000) than were females (7.3/100,000). The homicide rate for males more than doubled during the decade, rising from 19.5 per 100,000 in 1970 to 39.7/100,000 in 1979, compared with an increase of from 6.0/100,000 to 6.6/100,000 for females. Age-specific homicide rates increased in every age category, except persons under age 15, peaking at 26.9/100,000 population in the 25- to 34-year-old group.

Blacks and Hispanics were 5.6 and 2.3 times more likely, respectively, than white non-Hispanics to become homicide victims. Blacks were at greatest risk of victimization, with a rate of 45.6/100,000 population. The greatest absolute increase in homicide rates occurred among blacks, whose rates rose from 35.7/100,000 in 1970 to 61.3/100,000 in 1979. However, the highest percentage increase—over 166.7%—occurred among Hispanics, from 11.1 in 1970 to 29.6 in 1979.

For specific race/ethnic groups by sex, the risk of homicide was greatest for black males, followed by Hispanic males, and black females (Figure 1). Hispanic males were 7.3 times more likely than Hispanic females to be victimized, while black males and white non-Hispanic males were 4.3 and 2.3 times more likely to be victimized than black females and white non-Hispanic females, respectively. Relative differences in race/sex-specific homicide rates were unchanged after rates were age-adjusted.

The increasing homicide rate in Los Angeles during the 1970s can be attributed almost entirely to changes in homicide rates among black and Hispanic males (Figure 2). Rates for white non-Hispanic males were only slightly higher in the latter half of the decade than in the first half, and there was no consistent upward trend. The rates for white non-Hispanic, black, and Hispanic females did not change substantially.

In 56.6% of homicides, victims were killed with some type of gun; handguns were used in 79.3% of these cases. In 23.3% of cases, cutting instruments were used; 10.6% of victims were bludgeoned to death; and 9.6% were killed by other means. Verbal arguments most commonly preceded homicides (32.7% of cases). During the 10-year period, 48.4% of homicides occurred in homes.

*Criminal homicide is defined as death due to injuries illegally inflicted by another person with intent to injure or kill, by any means. Ascertainment of a case as a criminal homicide was based on the results of the investigation conducted by the Los Angeles Police Department. These homicides do not include killings committed by police officers in the line of duty and those committed by citizens in self-defense.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Homicide — Continued

Most homicide victims in Los Angeles knew their assailants. In 61.2% of cases, the offender was a member of the victim's family or a person otherwise acquainted with the victim. However, the distribution of victim-offender relationships was different for men and women (Figure 3). A total of 42.7% of women were killed by a family member or intimate acquaintance, compared with 14.9% of men. Women were most likely to be killed by their husbands; men, by friends or acquaintances.

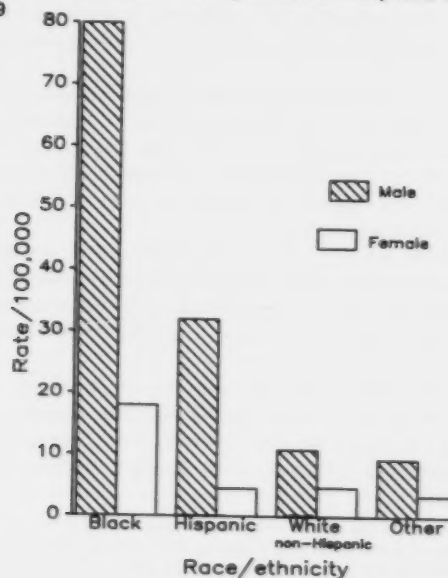
Blood-alcohol tests were completed for 4,092 (82.7%) of the 4,950 homicide victims. Alcohol was detected in 46.0% of victims tested; in 30.2% of victims tested, blood-alcohol levels were 100 mg% or higher,[†] the legal level of intoxication in most states. Blood-alcohol presence varied markedly by race/ethnicity. Alcohol was detected in 57.0% of all Hispanic victims tested, 47.7% of blacks, 34.5% of white non-Hispanics, and 33.7% of persons in other race/ethnic groups.

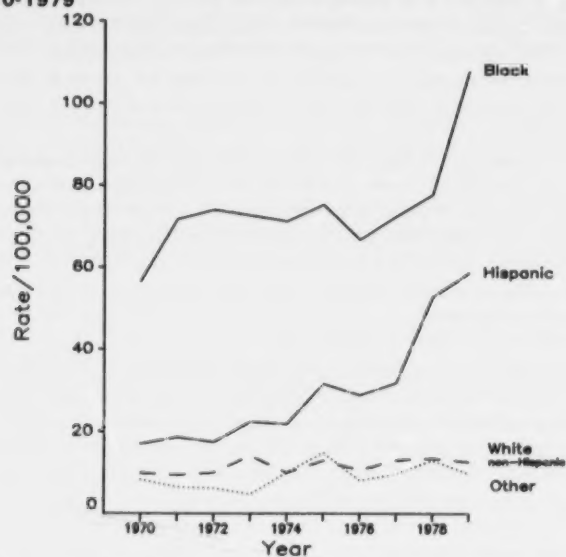
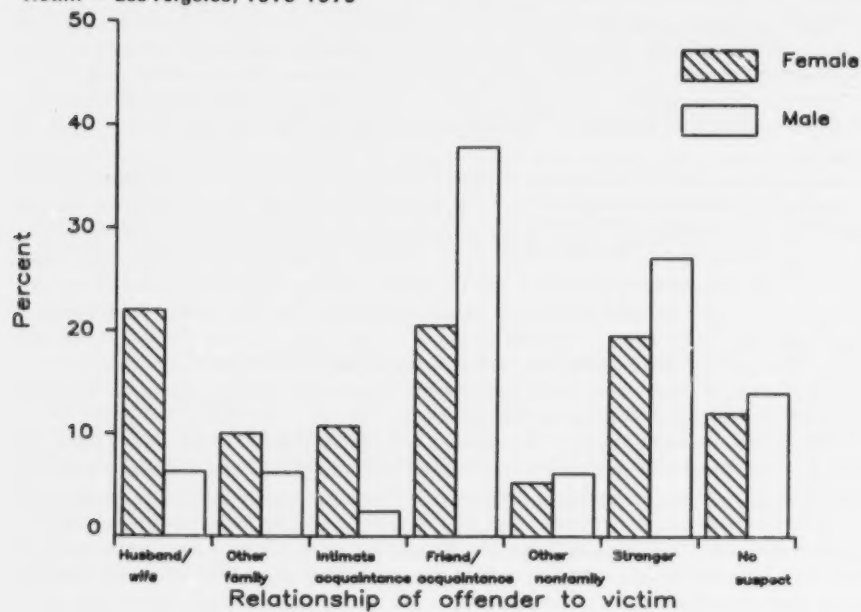
Reported by F Loya, PhD, NH Allen, MPH, Neuropsychiatric Institute, University of California at Los Angeles, Div of Epidemiology, School of Public Health, University of California at Los Angeles, Los Angeles Police Dept, Los Angeles Medical Examiner-Coroner's Office; LA Vargas, PhD, Children's Psychiatric Hospital, University of New Mexico, Albuquerque; Violence Epidemiology Br, Center for Health Promotion and Education, Epidemiology Program Office, CDC.

Editorial Note: The objectives of the Los Angeles study were to identify: (1) groups at greatest risk of homicide victimization; (2) situational and interpersonal characteristics associated with homicide; (3) changes in the risk of homicide victimization over time; (4) patterns of alcohol by homicide victims; and (5) potential approaches to homicide research and prevention. It is intended to serve as a model for epidemiologic analysis of homicide that can be replicated in state and community settings throughout the country.

[†] The level of alcohol in the blood is defined as milligrams of alcohol per 100 milliliters of blood and is expressed in terms of milligrams percent (i.e., mg%).

FIGURE 1. Age-adjusted homicide rate, by race/ethnicity and sex of victim — Los Angeles, 1970-1979



*Homicide — Continued***FIGURE 2. Homicide rate for male victims, by race/ethnicity and year of death — Los Angeles, 1970-1979****FIGURE 3. Percentage of homicides, by sex of victim and relationship of offender to victim — Los Angeles, 1970-1979**

Homicide — Continued

Compared with rates for other major U.S. urban areas, homicide rates increased markedly in Los Angeles from 1970 to 1979. Between 1970 and 1978, the rate of increase for the Los Angeles/Long Beach Standard Metropolitan Statistical Area (SMSA) was much greater than in any of the other 25 most populous SMSAs in the United States (based on 1970 population estimates) (3). Although the exact causes for this increase are not clear, this pattern is primarily attributable to increasing homicide rates among black and Hispanic males between the ages of 15 and 44 years.

The pattern of highest overall homicide rates in Los Angeles among young black males is also characteristic of the United States as a whole and is supported by studies in other urban areas, including Philadelphia, Pennsylvania; Houston, Texas; Chicago, Illinois; and Atlanta, Georgia (4-8). The consistency with which these findings have been reported suggests that the determinants of these patterns are widespread throughout society, rather than associated with specific local environments or points in time. Numerous studies and reports have suggested that two such determinants of the high risk faced by blacks and other minority groups may be poverty and the subculture of violence (8-11).

This study confirmed previous findings that substantial numbers of victims and/or offenders involved in violent crimes consume alcohol before the crimes (4, 7, 12-15). While the Los Angeles study cannot establish alcohol as a risk factor for homicide, the results further document the strong relationship between patterns of alcohol use and characteristics of the victims (16). Information is needed on blood-alcohol levels in referent populations or in persons who are not homicide victims. Without such data, the prevalence of alcohol in homicide victims may only reflect alcohol consumption patterns in individuals or groups at increased risk of homicide for other reasons.

Neither this study nor official statistics collected by the criminal-justice and health-care systems link acts of criminal violence and resulting injuries to drug activity of victims or offenders. The term "drug activity" can apply to drug use by victims or offenders, as well as to the activities involved in distributing, buying, and selling drugs. Police in New York City examined this linkage and found that 24% of all homicides could be considered drug-related in 1981 (17). Thus, existing databases should be improved to enhance epidemiologic analysis of the associations between homicide and the illicit use, manufacture, or distribution of drugs.

Research has generally focused on the homicide event itself and has rarely addressed the processes that lead to homicide. In the context of family violence, more attention should be paid to the natural history of family abuse. Wife battering is characterized by recurrent injuries to and general medical complaints by the victim (18, 19). However, the "battering syndrome" has only been rudimentarily described, and important questions remain to be answered concerning whether the severity of physical assaults escalates over time in the family context; how frequently assaults occur; whether abuse of children and the elderly is associated with spouse abuse; how victims seek help; and how frequently and with what consequences victims have prior contacts with criminal-justice institutions, social-service agencies, and health-care facilities for problems related to nonfatal abuse.

Additionally, knowledge about the frequency and nature of violence between friends and acquaintances could be improved. Young males in minority groups appear to be particularly vulnerable to homicide by friends or acquaintances, suggesting that the forces that account for racial discrepancies in homicide rates may have their greatest influence on violence between friends and acquaintances. Examining the socioeconomic and cultural context in which violence by friends or acquaintances occurs and the means of conflict resolution used by young minority males may be a useful starting point for understanding race/ethnic differences

Homicide — Continued

underlying this phenomenon. Topics to be considered are: whether arguments are more frequent among black friends and acquaintances or whether the likelihood of violent resolutions to arguments is greater; whether different race/ethnic groups resolve conflicts differently, and, if so, whether these means are related to the socioeconomic or cultural status of minority groups.

References

1. Federal Bureau of Investigation. Uniform crime reports: 4th quarterly bulletin, 1934-1941; annual bulletin, 1942-1957, crime in the U.S., 1957-1978. Washington, D.C.: U.S. Department of Justice.
2. University of California at Los Angeles, CDC: The epidemiology of homicide in the city of Los Angeles, 1970-79. Atlanta: CDC, 1985.
3. CDC. Homicide surveillance report, 1970-78. Atlanta: CDC, 1978.
4. Wolfgang M. Patterns in criminal homicide. New York: John Wiley and Sons, Inc., 1958.
5. Pokorny A. A comparison of homicides in two cities. *J Criminal Law Criminology Police Sci* 1956; 56:479-87.
6. Munford RS, Kazer RS, Feldman RA, Stivers RR. Homicide trends in Atlanta. *Criminology* 1976;14: 213-31.
7. Voss HS, Hepburn JR. Patterns in criminal homicide in Chicago. *J Criminal Law Criminology Police Sci* 1968;59:499-508.
8. U.S. Department of Health and Human Services. Report of the Secretary's Task Force on Black and Minority Health. Washington, D.C.: DHHS, August 1985.
9. Williams KR. Economic sources of homicide; reestimating the effects of poverty and inequality. *Am Sociol Rev* 1984;49:283-9.
10. Loftin C, Hill RH. Regional subculture and homicide: an examination of the Gastil-Hackney thesis. *Am Sociol Rev* 1974;39:714-24.
11. Erlanger H. The empirical status of the subculture of violence thesis. *Soc Problems* 1974;22: 280-91.
12. Haberman PW, Baden MM. Alcohol, other drugs, and violent death. New York: Oxford University Press, 1978.
13. Constantino JP, Kuller LH, Perper JA, Cypess RH. An epidemiologic study of homicides in Allegheny County, Pennsylvania. *Am J Epidemiol* 1977;106:314-24.
14. CDC. Alcohol and violent death—Erie County, New York, 1973-1983. *MMWR* 1984;33:226-7.
15. Shupe LM. Alcohol and crime: a study of the urine alcohol concentration found in 882 persons arrested during or immediately after the commission of a felony. *J Crim Law Criminol Police Sci* 1954;44:661-4.
16. Goodman RA, Mercy JA, Loya F, et al. Alcohol use and interpersonal violence: alcohol detected in homicide victims. *Am J Public Health* 1986;76:144-9.
17. New York City Police Department. Crime analysis—1981. New York City: 1983 (unpublished).
18. Stark E, Flitcraft A, Zuckerman D, et al. Wife abuse in the medical setting: an introduction for health personnel (Monograph no. 7). Washington, D.C.: Office of Domestic Violence, 1981.
19. Teske RHC, Parker ML. Spouse abuse in Texas: a study of women's attitudes and experiences. Huntsville, Texas: Criminal Justice Center, Sam Houston State University, 1983.

*Current Trends***Update: Influenza Activity — United States**

Influenza B and influenza A(H3N2) viruses continue to circulate throughout the United States. For the week ending February 1, 13 states* and the District of Columbia reported widespread outbreaks of influenza-like illness, and 18 states† reported regional outbreaks.

*Colorado, Georgia, Idaho, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, North Carolina, Oklahoma, Pennsylvania, Washington, and West Virginia.

†California, Connecticut, Delaware, Illinois, Iowa, Kansas, Kentucky, Maryland, Mississippi, Missouri, Montana, Oregon, South Carolina, South Dakota, Texas, Vermont, Virginia, and Wisconsin.

Influenza — Continued

The preceding week, five states reported widespread outbreaks, and 13 states reported regional outbreaks.

Although influenza B viruses are more prevalent, there is evidence of at least one mixed outbreak. Beginning January 14, an outbreak of influenza-like illness was observed among students seen at the student health center at North Carolina State University in Raleigh. Influenza viruses were isolated from nine students tested from January 19 to January 21; seven type B viruses and two type A(H3N2) were identified. This is the first outbreak this season where both virus types B and A(H3N2) were isolated and raises the possibility of co-circulation of these viruses in other outbreaks.

Influenza virus type A(H3N2) has been isolated from a nursing-home outbreak near Minneapolis-St. Paul, Minnesota, where approximately 33 (25%) of the 132 residents were ill between January 16 and January 28. Influenza type B viruses were isolated during the same week from two students in an outbreak of influenza-like illness at the high school in the same community as the nursing home.

Several more states have recently reported their first influenza isolates of the season. West Virginia has reported influenza type A(H3N2) virus; Maryland, Nebraska, and Rhode Island have reported influenza type B virus; and Delaware, Kentucky, North Carolina, and Ohio have reported both influenza type B and influenza type A(H3N2) viruses. Forty-two states and the District of Columbia have now reported influenza virus isolates this season. Thirty-eight states and the District of Columbia have reported type B isolates; 21 have reported type A(H3N2); and one, Hawaii, has reported type A(H1N1).

Tallies of patients with influenza-like illnesses seen by sentinel physicians[§] nationwide continued to increase from an average of 7.6 for the reporting week ending January 15, to an average of 9.2 for the week ending January 22.

Pneumonia and influenza (P&I) deaths reported from the 121 U.S. cities for the week ending February 1 represent 5.8% of total deaths, compared with 6.1% reported for the preceding week.

Reported by State and Territorial Epidemiologists; State Laboratory Directors; R Meriwether, MD, Div of Health Svcs, North Carolina Dept of Human Resources; E Balkovic, PhD, G Hsiung, PhD, Virology Laboratory, Veterans Administration Medical Center, West Haven, Connecticut; J Braun, MPH, Minnesota Dept of Health; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

[§]Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Reye Syndrome — United States, 1985

For the 1985 surveillance year,* 91 cases of Reye syndrome (RS) meeting CDC's case definition[†] were reported. Although delayed reports through June 1986 may increase the

*For surveillance purposes, the Reye syndrome year extends from December 1 through November 30 (i.e., the 1985 year runs from December 1, 1984, through November 30, 1985). The data for 1985 are preliminary and include cases reported as of January 15, 1986.

[†]The CDC case definition is (1) acute noninflammatory encephalopathy documented clinically by an alteration in consciousness and, if available, a record of cerebrospinal fluid containing eight leukocytes or fewer per mm³, or by histologic specimen demonstrating cerebral edema without perivascular or meningeal inflammation; (2) hepatopathy documented by either a liver biopsy or autopsy considered to be diagnostic of Reye syndrome, or a threefold or greater rise in the levels of either the SGOT, SGPT, or serum ammonia; and (3) no more reasonable explanation for the cerebral or hepatic abnormalities.

Reye Syndrome — Continued

number of cases for 1985, the provisional 1985 total is less than half the lowest annual total reported through the National Reye Syndrome Surveillance System (NRSSS) since its initiation in December 1973 (Table 1).

Cases were reported from 31 states. The sex and race distributions were similar to previous years. Of patients for whom this information was reported, 52% were female; 89%, white; 7%, black; and 4%, of Asian or American Indian extraction. Fifty-three percent of RS patients were 0-4 years of age; 20%, 5-9 years of age; 19%, 10-14 years of age; 5%, 15-19 years of age; and 3%, 20 years of age or older. The reported incidence of RS among children in all age groups has decreased in recent years (Figure 4).

Most patients (57%) reported thus far for 1985 were hospitalized in January and February. This primarily reflected the increased incidence of viral respiratory infections among children during those months. The predominant influenza isolate during this period was influenza A(H3N2) (1).

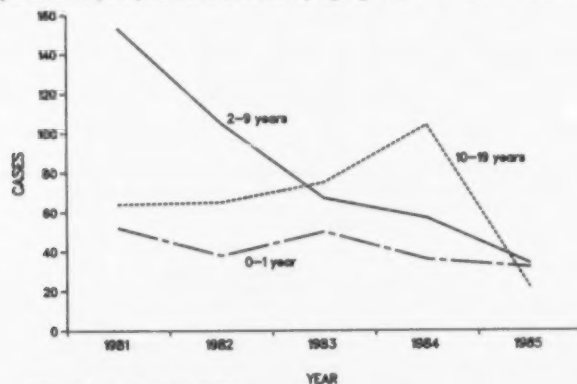
TABLE 1. Reported cases and incidence* of Reye syndrome (RS) — United States, 1974 and 1977-1985

Year	Predominant influenza strains	RS cases	Incidence	Case-fatality rate (%)
1974	B	379	0.58	41
1977	B	454	0.71	42
1978	A(H3N2)	236	0.37	29
1979	A(H1N1)	389	0.62	32
1980	B	555	0.88	23
1981	A(H3N2)	297	0.47	30
1982	B	213	0.34	35
1983	A(H3N2)	198	0.32	31
1984	A(H1N1) and B	204	0.33	26
1985†	A(H3N2)	91	0.15	32

*Cases/100,000 population under 18 years of age.

†Data for 1985 are preliminary and based on case reports received as of January 15, 1986.

FIGURE 4. Reported Reye syndrome cases, by age group — United States, 1981-1985*



*As of January 15, 1986.

Reye Syndrome — Continued

For 84 (92%) of the patients, a prodromal illness occurring within 2 weeks before the onset of vomiting or neurologic symptoms of RS was reported. Fourteen (17%) of these had varicella reported as their prodromal illness, compared with 26 (13%) patients in 1984. For the remainder of patients in 1985, the prodromal illness was characterized by respiratory symptoms (67%), diarrhea without respiratory symptoms (8%), or other signs and symptoms, including fever alone (7%).

The largest percentages of patients were admitted to hospitals in the three precomatose stages of RS: stage I—39%; stage II—28%; or stage O—9%. The deepest stages of RS attained by the hospitalized patients were: stage I—36% of patients; stage II—23%; stage III—5%; stage IV—4%; and stage V—32%. The short-term outcomes were reported for 87 (96%) of the RS patients; 28 died, for a case-fatality rate of 32%.

Reported by Div of Viral Diseases, Center for Infectious Diseases, CDC.

(Continued on page 73)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	5th Week Ending			Cumulative, 5th Week Ending		
	Feb. 1, 1986	Feb. 2, 1985	Median 1981-1985	Feb. 1, 1986	Feb. 2, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	209	156	N	1,070	513	N
Aseptic meningitis	63	57	90	364	332	433
Encephalitis: Primary (arthropod-borne & unspc)	14	18	18	69	67	78
Post-infectious	3	1	1	6	10	7
Gonorrhea: Civilian	15,146	17,076	17,887	76,114	74,868	91,417
Military	238	424	425	1,207	1,494	2,415
Hepatitis: Type A	434	490	490	2,017	1,788	1,874
Type B	366	553	410	1,975	2,017	2,017
Non A, Non B	37	75	N	226	339	N
Unspecified	77	94	145	425	368	665
Legionellosis	17	14	N	52	70	N
Leprosy	-	1	2	27	15	15
Malaria	11	13	14	53	53	57
Measles: Total*	26	16	16	79	49	49
Indigenous	24	5	N	74	21	N
Imported	2	11	N	5	28	N
Meningococcal infections: Total	80	71	64	280	239	277
Civilian	80	71	64	279	239	269
Military	-	-	-	1	-	1
Mumps	42	52	62	176	233	372
Pertussis	19	19	19	123	108	95
Rubella (German measles)	2	2	23	21	19	74
Syphilis (Primary & Secondary): Civilian	473	542	645	2,047	2,250	2,915
Military	6	3	3	15	15	34
Toxic Shock syndrome	7	8	N	22	32	N
Tuberculosis	359	293	442	1,390	1,359	1,720
Tularemia	1	5	3	7	15	11
Typhoid fever	1	6	6	20	13	32
Typhus fever, tick-borne (RMSF)	1	-	-	5	1	6
Rabies, animal	68	70	81	359	308	389

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Va. 1)	6
Botulism Foodborne	-	Plague	-
Infant (Def. 1)	6	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (N. Mex. 1)	2
Brucellosis	4	Rabies, human	-
Cholera	-	Tetanus	2
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	-
Diphtheria	-		

*Two of the 26 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
February 1, 1986 and February 2, 1985 (5th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA/NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	1,070	63	69	6	76,114	74,868	434	366	37	77	17	27
NEW ENGLAND	26	5	3	-	1,656	2,566	10	42	4	7	-	-
Maine	1	-	-	-	86	101	-	9	1	-	-	-
N.H.	1	2	1	-	36	47	-	-	-	-	-	-
Vt.	1	-	-	-	25	28	-	1	-	-	-	-
Mass.	9	3	1	-	743	843	7	29	2	7	-	-
R.I.	3	-	-	-	139	186	1	3	1	-	-	-
Conn.	11	-	1	-	627	1,363	2	-	-	-	-	-
MID ATLANTIC	397	13	10	-	14,921	9,864	34	25	1	2	-	4
Upstate N.Y.	23	7	4	-	1,321	958	30	13	-	1	-	-
N.Y. City	257	-	3	-	9,843	4,278	-	-	-	-	-	4
N.J.	70	6	1	-	1,490	1,352	-	-	-	-	-	-
Pa.	47	-	2	-	2,267	3,276	4	12	1	1	-	-
E.N. CENTRAL	58	8	11	1	9,829	10,544	15	44	1	2	3	1
Ohio	27	3	6	1	2,932	2,796	3	20	1	-	1	-
Ind.	5	3	-	-	1,647	959	3	4	-	1	-	-
Ill.	16	-	-	-	1,481	3,601	2	3	-	-	-	-
Mich.	10	2	5	-	3,155	3,019	7	17	-	1	2	1
Wis.	-	-	-	-	614	167	-	-	-	-	-	-
W.N. CENTRAL	28	3	-	1	3,812	4,239	37	11	2	3	2	1
Minn.	14	-	-	-	590	639	1	3	1	-	-	-
Iowa	2	-	-	-	394	449	-	1	-	-	1	-
Mo.	5	-	-	-	1,846	1,952	3	5	-	2	1	-
N. Dak.	3	-	-	-	45	24	-	-	-	-	-	-
S. Dak.	-	1	-	-	59	91	30	-	1	-	-	-
Nebr.	2	-	-	-	152	399	1	-	-	-	-	-
Kans.	2	2	-	1	726	745	2	2	-	1	-	1
S. ATLANTIC	168	17	13	4	15,640	15,423	32	94	9	3	5	-
Del.	6	1	2	-	309	355	2	-	1	-	-	-
Md.	20	3	5	-	2,210	2,089	-	2	-	-	-	-
D.C.	18	-	-	-	1,685	1,257	-	6	-	-	-	-
Va.	17	5	3	1	1,507	1,657	2	14	2	-	-	-
W. Va.	-	-	-	-	259	255	3	7	-	-	1	-
N.C.	5	4	2	-	2,583	3,008	1	17	1	1	1	-
S.C.	8	-	-	-	1,608	2,031	1	15	-	-	1	-
Ga.	2	2	-	-	-	-	9	15	3	-	1	-
Fla.	92	2	1	3	5,479	4,771	14	18	2	2	1	-
E.S. CENTRAL	18	4	10	-	6,732	6,616	2	18	3	-	-	-
Ky.	5	3	5	-	783	715	2	3	1	-	-	-
Tenn.	10	-	1	-	2,635	2,577	-	7	1	-	-	-
Ala.	-	1	4	-	1,862	2,035	-	6	1	-	-	-
Miss.	3	-	-	-	1,452	1,289	-	2	-	-	-	-
W.S. CENTRAL	93	4	1	-	9,972	11,720	36	23	1	18	-	-
Ark.	5	-	-	-	958	1,120	1	1	-	-	-	-
La.	14	1	-	-	1,698	2,345	2	3	-	-	-	-
Okla.	2	1	-	-	1,160	1,166	9	2	-	4	-	-
Tex.	72	2	1	-	6,156	7,089	24	17	1	14	-	-
MOUNTAIN	12	3	4	-	2,409	2,633	38	22	4	9	2	-
Mont.	-	-	-	-	61	80	5	-	1	-	-	-
Idaho	1	-	-	-	74	82	4	1	-	-	-	-
Wyo.	2	-	1	-	49	74	-	-	-	-	-	-
Colo.	1	2	-	-	608	759	-	4	2	6	-	-
N. Mex.	1	-	-	-	272	310	9	10	-	2	1	-
Ariz.	2	-	2	-	703	806	-	-	-	-	-	-
Utah	1	1	1	-	111	123	11	4	1	1	1	-
Nev.	4	-	-	-	531	399	9	3	-	-	-	-
PACIFIC	270	6	17	-	11,143	11,203	230	87	12	33	5	21
Wash.	19	-	1	-	705	832	17	4	1	-	2	-
Oreg.	7	-	-	-	442	662	61	1	4	2	-	-
Calif.	241	6	14	-	9,555	9,262	152	78	7	31	-	21
Alaska	-	-	2	-	322	290	-	3	-	-	1	-
Hawaii	3	-	-	-	119	157	-	1	-	-	2	-
Guam	-	U	-	-	-	7	U	U	U	U	U	-
P.R.	5	U	-	-	157	419	U	U	U	U	U	-
V.I.	-	-	-	-	18	39	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	72	U	U	U	U	U	-
Amer. Samoa	-	U	-	-	-	-	U	U	U	U	U	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 1, 1986 and February 2, 1985 (5th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin- gococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
		Cum 1986	1986	Cum 1986	1986	Cum 1986		Cum 1985	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	53	24	74	2	5	49	280	42	176	19	123	108	2	21	19
NEW ENGLAND	1	-	-	-	-	-	22	-	3	3	12	1	-	-	2
Maine	-	-	-	-	-	-	5	-	-	-	1	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	1	-	5	-	-	-	1
Vt.	-	-	-	-	-	-	4	-	-	-	-	1	-	-	-
Mass.	1	-	-	-	-	-	5	-	-	2	4	-	-	-	-
R.I.	-	-	-	-	-	-	1	-	2	1	1	-	-	-	-
Conn.	-	-	-	-	-	-	7	-	-	-	1	-	-	-	-
MID ATLANTIC	8	-	11	-	2	1	40	5	13	5	28	19	1	6	5
Upstate N.Y.	-	-	-	-	2	1	8	1	5	3	19	7	1	6	1
N.Y. City	3	-	11	-	-	-	8	-	-	-	-	4	-	-	3
N.J.	4	-	-	-	-	-	6	1	3	-	-	-	-	-	1
Pa.	1	-	-	-	-	-	18	3	5	2	9	8	-	-	-
E.N. CENTRAL	1	-	-	-	-	17	28	24	76	-	17	33	-	1	-
Ohio	1	-	-	-	-	-	13	14	23	-	11	8	-	-	-
Ill.	-	-	-	-	-	-	5	1	1	-	3	10	-	-	-
Mich.	-	-	-	-	-	1	3	3	32	-	-	2	-	-	-
Wis.	-	-	-	-	-	-	7	6	20	-	1	1	-	-	-
-	-	-	-	-	-	16	-	-	-	-	2	12	-	1	-
W.N. CENTRAL	-	19	43	-	-	-	12	1	10	1	12	7	-	-	4
Minn.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Iowa	-	-	-	-	-	-	4	1	4	-	2	-	-	-	-
Mo.	-	-	-	-	-	-	6	-	1	1	1	2	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	19	43	-	-	-	2	-	5	-	3	1	-	-	4
S. ATLANTIC	9	-	-	-	-	2	43	-	18	2	16	12	1	1	1
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	2	-	-	-	-	-	3	-	2	-	4	2	-	-	-
D.C.	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Va.	5	-	-	-	-	-	4	-	4	1	3	-	-	-	-
W. Va.	-	-	-	-	-	-	1	-	7	-	-	-	-	-	-
N.C.	1	-	-	-	-	-	6	-	1	-	5	4	-	-	-
S.C.	-	-	-	-	-	-	8	-	2	-	1	-	-	-	1
Ga.	-	-	-	-	-	-	6	-	1	1	2	1	-	-	-
Fla.	1	-	-	-	-	1	14	-	1	-	1	5	1	1	-
E.S. CENTRAL	1	-	-	-	-	-	29	-	3	-	5	2	-	1	1
Ky.	1	-	-	-	-	-	17	-	2	-	1	-	-	1	1
Tenn.	-	-	-	-	-	-	6	-	1	-	1	1	-	-	-
Ala.	-	-	-	-	-	-	6	-	-	-	3	1	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	-	-	-	-	-	11	7	9	1	1	9	-	-	1
Ark.	-	-	-	-	-	-	-	1	1	-	-	6	-	-	1
La.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	3	N	N	1	1	3	-	-	-
Tex.	-	-	-	-	-	-	7	6	8	-	-	-	-	-	-
MOUNTAIN	-	5	6	2	2	18	16	2	25	2	13	3	-	-	-
Mont.	-	-	-	-	-	18	2	1	1	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-
Wyo.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Colo.	-	-	-	-	-	-	1	-	1	2	3	1	-	-	-
N. Mex.	-	5	6	2	2	-	3	N	N	-	4	1	-	-	-
Ariz.	-	-	-	-	-	-	5	-	20	-	4	1	-	-	-
Utah	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
Nev.	-	-	-	-	-	-	2	1	2	-	-	-	-	-	-
PACIFIC	33	-	14	-	1	11	79	3	19	5	19	22	-	12	5
Wash.	2	-	-	-	-	1	9	-	-	1	6	1	-	-	-
Oreg.	2	-	-	-	-	-	7	N	N	-	-	4	-	-	-
Calif.	29	-	13	-	1	9	60	2	17	3	11	15	-	12	5
Alaska	-	-	-	-	-	-	3	1	1	1	1	-	-	-	-
Hawaii	-	-	1	-	-	1	-	-	1	-	1	2	-	-	-
Guam	-	U	-	U	-	7	-	U	-	U	-	-	U	-	-
P.R.	-	U	-	U	-	20	-	U	2	U	2	1	U	-	2
V.I.	-	-	-	-	-	3	-	1	2	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable

U Unavailable

†International

§Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 1, 1986 and February 2, 1985 (5th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	2,047	2,250	7	1,390	1,359	7	20	5	359
NEW ENGLAND	58	55	-	44	53	-	1	1	-
Maine	3	2	-	6	2	-	-	-	-
NH	1	1	-	-	5	-	-	-	-
VT	1	-	-	2	-	-	-	-	-
Mass	34	26	-	19	32	-	1	1	-
RI	1	1	-	-	6	-	-	-	-
Conn	18	25	-	17	8	-	-	-	-
MID ATLANTIC	340	316	-	278	304	-	1	-	43
Upstate N Y	18	15	-	45	34	-	-	-	5
N Y City	238	200	-	130	170	-	1	-	-
NJ	63	62	-	68	15	-	-	-	-
Pa	21	39	-	37	85	-	-	-	38
EN CENTRAL	44	118	2	211	156	-	2	-	7
Ohio	7	10	-	25	30	-	-	-	-
Ind	18	8	-	16	19	-	-	-	1
Ill	9	77	-	110	73	-	-	-	-
Mich	6	18	2	48	25	-	2	-	2
Wis	4	5	-	12	9	-	-	-	4
W N CENTRAL	17	23	4	20	29	4	-	-	30
Minn	3	6	-	2	4	-	-	-	-
Iowa	3	4	2	2	12	1	-	-	11
Mo	9	8	-	13	5	3	-	-	2
N Dak	2	-	-	2	1	-	-	-	17
S Dak	-	1	-	-	2	-	-	-	-
Nebr	-	1	1	-	2	-	-	-	-
Kans	-	3	1	1	3	-	-	-	-
S ATLANTIC	408	552	-	260	262	1	1	2	74
Del	2	3	-	-	4	-	-	-	-
Md	41	59	-	11	19	-	-	-	62
D C	33	25	-	17	18	-	-	-	-
Va	54	32	-	8	9	-	-	-	10
W Va	3	-	-	7	10	-	-	-	1
N C	53	68	-	38	24	-	1	2	-
S C	85	76	-	40	36	-	-	-	2
Ga	-	-	-	28	30	1	-	-	9
Fla	137	289	-	111	112	-	-	-	-
ES CENTRAL	173	215	-	145	117	1	-	2	19
Ky	12	9	-	46	21	1	-	1	3
Tenn	59	36	-	37	31	-	-	-	9
Ala	58	88	-	62	53	-	-	1	7
Miss	44	82	-	-	12	-	-	-	-
W S CENTRAL	490	477	-	119	102	1	-	-	38
Ark	19	32	-	19	6	1	-	-	7
La	80	108	-	45	41	-	-	-	-
Okla	15	23	-	6	16	-	-	-	5
Tex	376	314	-	49	39	-	-	-	26
MOUNTAIN	81	96	1	27	20	-	1	-	99
Mont	-	-	-	-	2	-	-	-	43
Idaho	1	1	-	1	-	-	-	-	-
Wyo	-	3	-	-	-	-	-	-	42
Colo	26	23	-	-	-	-	-	-	-
N Mex	10	6	-	6	2	-	-	-	2
Ariz	29	58	-	14	13	-	-	-	12
Utah	3	1	1	-	-	-	1	-	-
Nev	12	4	-	6	3	-	-	-	-
PACIFIC	436	398	-	286	316	-	14	-	49
Wash	-	14	-	18	7	-	2	-	-
Oreg	15	15	-	9	8	-	-	-	-
Calif	414	362	-	244	275	-	11	-	48
Alaska	-	-	-	-	18	-	-	-	1
Hawaii	7	7	-	15	8	-	1	-	-
Guam	-	1	U	-	3	-	-	-	-
P R	57	105	U	20	16	-	-	-	4
V.I.	-	-	-	-	-	-	-	-	-
Pac Trust Terr	-	9	U	-	5	-	-	-	-
Amer Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
February 1, 1986 (5th Week)

Reporting Area	All Causes, By Age (Years)						P&I ^{††} Total	Reporting Area	All Causes, By Age (Years)						P&I ^{††} Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	674	459	141	36	13	25	61	S. ATLANTIC	1,487	961	323	115	47	40	79
Boston, Mass.	190	118	46	13	3	10	28	Atlanta, Ga.	147	87	40	13	4	3	1
Bridgeport, Conn.	41	28	7	3	2	1	4	Baltimore, Md.	224	133	54	25	10	2	9
Cambridge, Mass.	24	23	1	-	-	-	6	Charlotte, N.C.	81	51	17	4	5	4	10
Fall River, Mass.	27	19	7	1	-	-	1	Jacksonville, Fla.	151	94	40	8	5	4	13
Hartford, Conn.	71	38	21	8	1	3	6	Miami, Fla. §	141	130	1	2	5	3	1
Lowell, Mass.	23	22	-	1	-	-	-	Norfolk, Va.	74	47	13	9	2	3	8
Lynn, Mass.	21	17	2	1	1	-	1	Richmond, Va.	93	44	32	8	3	6	6
New Bedford, Mass.	20	18	2	-	-	-	1	Savannah, Ga.	65	46	13	4	1	1	7
New Haven, Conn.	43	30	7	3	3	-	-	St. Petersburg, Fla.	118	101	11	5	-	1	9
Providence, R.I.	72	44	21	2	-	5	4	Tampa, Fla.	98	51	32	4	5	5	5
Somerville, Mass.	9	5	4	-	-	-	-	Washington, D.C.	256	147	64	32	6	7	10
Springfield, Mass.	44	25	10	3	1	5	6	Wilmington, Del.	39	30	6	1	1	1	-
Waterbury, Conn.	32	27	4	1	-	-	1								
Worcester, Mass.	57	45	9	-	2	1	3	E.S. CENTRAL	894	584	195	61	25	29	54
								Birmingham, Ala.	163	104	40	12	2	5	8
MID ATLANTIC	3,440	2,350	706	260	60	64	188	Chattanooga, Tenn.	59	37	13	2	-	7	6
Albany, N.Y.	55	32	16	4	-	3	-	Knoxville, Tenn.	89	64	16	4	2	3	11
Allentown, Pa. §	22	22	-	-	-	-	-	Louisville, Ky.	120	81	25	7	5	2	7
Buffalo, N.Y.	104	72	18	9	1	4	7	Memphis, Tenn.	201	135	40	19	5	2	13
Camden, N.J.	42	28	9	2	1	2	1	Mobile, Ala.	106	81	17	4	4	-	2
Elizabeth, N.J.	34	23	6	2	1	2	2	Montgomery, Ala.	51	29	15	4	3	-	-
Encl. Pa. †	38	30	7	-	1	-	2	Nashville, Tenn.	105	53	29	9	4	10	7
Jersey City, N.J.	56	36	10	9	-	1	1								
N.Y. City, N.Y.	1,780	1,191	376	164	29	20	80	W.S. CENTRAL	1,530	953	334	125	53	65	83
Newark, N.J.	62	32	11	12	3	4	4	Austin, Tex.	74	45	21	5	1	2	4
Philadelphia, Pa.	632	434	140	30	12	16	37	Baton Rouge, La.	46	30	11	4	1	-	2
Pittsburgh, Pa. †	107	71	29	4	2	1	5	Corpus Christi, Tex.	33	24	4	2	1	2	5
Reading, Pa.	41	35	4	1	-	1	9	Dallas, Tex.	240	141	55	24	9	11	7
Rochester, N.Y.	140	104	28	5	2	1	10	El Paso, Tex.	99	62	21	6	3	7	9
Schenectady, N.Y.	34	30	-	2	1	1	-	Fort Worth, Tex.	113	73	22	9	4	5	5
Scranton, Pa. †	27	24	2	1	-	-	5	Houston, Tex.	364	214	93	30	11	16	11
Syracuse, N.Y.	100	62	26	6	5	1	12	Little Rock, Ark.	60	40	7	6	1	6	9
Trenton, N.J.	65	53	4	5	2	1	-	New Orleans, La.	120	78	27	11	3	1	-
Utica, N.Y.	14	10	2	-	-	2	2	San Antonio, Tex.	196	124	39	15	13	5	14
Yonkers, N.Y.	46	36	8	1	-	1	10	Shreveport, La.	76	49	17	5	2	3	6
								Tulsa, Okla.	109	73	17	8	4	7	11
E.N. CENTRAL	2,507	1,799	406	138	67	95	125	MOUNTAIN	699	463	141	49	22	23	51
Akron, Ohio	80	60	14	3	2	1	2	Albuquerque, N.Mex.	103	68	18	7	7	2	8
Canton, Ohio	25	15	10	-	-	-	2	Colorado Springs, Colo.	43	31	6	3	2	1	5
Chicago, Ill. §	553	462	11	26	16	37	16	Denver, Colo.	110	63	24	9	3	11	4
Cincinnati, Ohio	159	109	28	11	5	6	14	Las Vegas, Nev.	64	40	19	4	1	-	5
Cleveland, Ohio	173	121	34	12	4	2	3	Ogden, Utah	24	20	2	1	1	1	6
Columbus, Ohio	215	144	47	14	2	8	8	Phoenix, Ariz.	156	90	36	14	7	7	6
Dayton, Ohio	126	83	35	5	1	2	10	Pueblo, Colo.	26	20	5	1	-	-	5
Detroit, Mich.	242	134	63	23	9	13	6	Salt Lake City, Utah	45	31	5	7	1	1	1
Evansville, Ind.	55	42	7	2	1	3	5	Tucson, Ariz.	128	100	24	4	-	-	11
Fort Wayne, Ind.	53	39	9	2	1	2	7								
Gary, Ind.	13	6	5	-	1	1	-	PACIFIC	2,242	1,471	449	198	62	51	142
Grand Rapids, Mich.	33	25	4	3	1	-	3	Berkeley, Calif.	19	15	2	1	1	-	1
Indianapolis, Ind.	210	131	45	17	10	7	7	Fresno, Calif.	60	42	15	1	1	1	8
Madison, Wis. §	36	31	-	2	1	2	4	Glendale, Calif.	51	34	11	5	1	-	5
Milwaukee, Wis.	156	119	24	5	7	1	13	Honolulu, Hawaii	84	56	15	5	7	1	7
Peoria, Ill.	50	35	5	2	5	3	5	Long Beach, Calif.	76	50	18	4	1	3	11
Rockford, Ill.	50	37	8	2	1	2	2	Los Angeles, Calif.	791	511	141	85	30	14	28
South Bend, Ind.	44	36	7	1	-	-	1	Oakland, Calif.	75	42	25	5	2	1	1
Toledo, Ohio	162	117	34	6	-	4	14	Pasadena, Calif.	39	31	4	3	-	1	2
Youngstown, Ohio	72	53	16	2	-	1	3	Portland, Oreg.	136	100	23	7	2	4	6
								Sacramento, Calif.	129	78	37	9	2	3	6
W.N. CENTRAL	822	572	159	43	17	31	50	San Diego, Calif.	167	106	39	11	5	6	22
Des Moines, Iowa	64	51	5	5	1	2	7	San Francisco, Calif.	170	94	47	22	2	4	11
Duluth, Minn.	37	30	3	2	1	1	-	San Jose, Calif.	171	122	22	18	3	6	17
Kansas City, Kans.	24	19	4	1	-	-	-	Seattle, Wash.	172	116	33	14	4	5	7
Kansas City, Mo.	131	87	27	7	4	6	7	Spokane, Wash.	60	42	10	6	1	1	7
Lincoln, Nebr.	42	27	13	1	1	-	6	Tacoma, Wash.	42	32	7	2	-	1	3
Minneapolis, Minn.	105	78	12	6	5	4	10								
Omaha, Nebr.	101	63	26	6	2	4	1	TOTAL	14,295	9,612	2,854	1,025	366	423	833
St. Louis, Mo.	151	112	30	6	-	3	6								
St. Paul, Minn.	79	51	17	5	1	5	6								
Wichita, Kans.	88	64	22	4	2	6	7								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†† Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Reye Syndrome — Continued

Editorial Note: The NRSSS provides crude annual comparisons of RS activity, although the number of cases reported underestimates true RS incidence and mortality. Because state health departments and CDC are more likely to become aware of fatal cases, the reported case-fatality ratios are probably overestimated.

During the 1985 surveillance year, the annual RS incidence was the lowest reported since the NRSSS was initiated. In previous years, the RS incidence, at least in part, has reflected the intensity and type of influenza activity. By all surveillance parameters, 1985 influenza activity was comparable in intensity to 1984, and the activity was greater than in 1982 or 1983. However, the predominant isolate was influenza A(H3N2), which has been generally associated with fewer cases of RS than influenza types B or A(H1N1). Nonetheless, the number of RS cases reported in 1985 was markedly lower than in the 3 previous years (1978, 1981, and 1983) that influenza A(H3N2) predominated (Table 1). In addition, varicella-associated RS cases reported annually declined by over 60% during 1981-1984, and the decline appears to be continuing during 1985, despite relatively stable annual varicella activity.

During 1981-1984, the number of reported RS cases consistently declined among children under 10 years of age; no such decrease occurred in the number of patients 10-19 years of age (2). During 1985, the continued decrease in RS incidence among patients 0-9 years of age was accompanied by an even larger decrease in incidence among patients 10-19 years of age (Figure 1).

Between 1981 and 1985, a less rapid decrease in RS incidence among children under 2 years of age has led to an increasing proportion of RS cases in this age group. This may be related, in part, to a long-standing difficulty in the diagnosis of RS in young children. It may be particularly difficult to distinguish RS from anoxic encephalopathy and inborn errors of metabolism in these children (3,4). At a National Institutes of Health Consensus Development Conference on the Diagnosis and Treatment of Reye Syndrome, it was recommended that, although RS diagnosis can be made in most patients without a liver biopsy, biopsy should be considered in very young children (5). It has been suggested, however, that the pathologic changes seen may not always reliably differentiate RS from inborn errors of metabolism (6). Recently, the specificity of light microscopy changes on postmortem examination considered to be characteristic of RS has been challenged (7). Thus, before the diagnosis is established, the possibility of other more reasonable explanations for the cerebral and hepatic abnormalities should be explored, particularly in infants and young children. Histochemical staining and electron-microscopic examination of the liver, as well as a serum amino-acid profile, may help increase the specificity of diagnosis (8,9).

The intensity of RS surveillance usually depends partially on the awareness of the illness among the public and medical personnel and the ease and perceived importance of reporting cases. The low reported RS incidence in 1985 occurred during widespread publicity about the probable increased risk of RS associated with the use of aspirin for teenagers, as well as for younger children, with influenza-like illnesses or chickenpox.

Following the results of the pilot phase of the U.S. Public Health Service study on RS and medications (10), the U.S. Food and Drug Administration has proposed that oral over-the-counter medicine containing aspirin add a label reading: **WARNING:** Children and teenagers should not use this medicine for chickenpox or flu symptoms before a doctor is consulted about Reye syndrome, a rare but serious disease.

For the 1985-1986 influenza season, increasing numbers of states are reporting influenza virus isolates, predominantly types B and A(H3N2). Physicians and other appropriate personnel in the medical community are encouraged to continue reporting RS cases to CDC through

Reye Syndrome — Continued

their local and state health departments. RS case-report forms can be obtained from state health departments or the Epidemiology Office, Division of Viral Diseases, Center for Infectious Diseases, CDC, Atlanta, Georgia 30333.

References

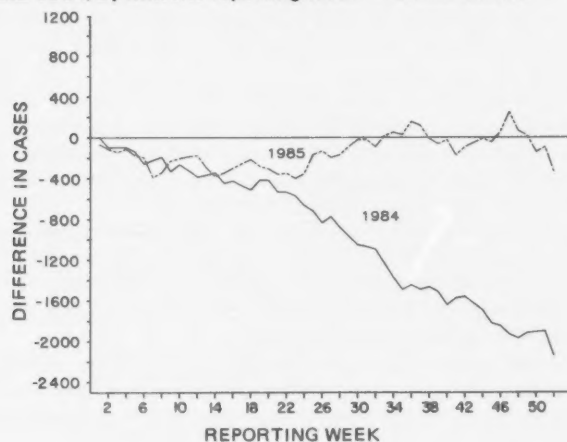
1. CDC. Influenza—United States, 1984-1985 season. *MMWR* 1985;34:440-3.
2. CDC. Reye syndrome—United States, 1984. *MMWR* 1985;34:13-6.
3. Trauner DA. Reye's syndrome. In: Gluck L, ed. *Current problems in pediatrics*. Chicago: Year Book Medical Publishers, Inc. 1982;1-31.
4. Crocker JF, Bagnell PC. Reye's syndrome: a clinical review. *Can Med Assoc J* 1981;124:375-82.
5. National Institutes of Health. Diagnosis and treatment of Reye's syndrome. *JAMA* 1981;246:2441-4.
6. Huttenlocher PR, Trauner DA. Reye's syndrome in infancy. *Pediatrics* 1978;62:84-90.
7. Bonnell HJ, Beckwith JB. Fatty liver in sudden childhood death. Implications for Reye's syndrome? *Am J Dis Child* 1986;140:30-3.
8. Bove KE, McAdams AJ, Partin JC, Partin JS, Hug G, Schubert WK. The hepatic lesion in Reye's syndrome. *Gastroenterology* 1975;69:685-97.
9. Romshe CA, Hilty MD, McClung HJ, Kerzner B, Reiner CB. Amino acid pattern in Reye syndrome: comparison with clinically similar entities. *J Pediatrics* 1981;98:788-90.
10. Hurwitz ES, Barrett MJ, Bregman D, et al. Public Health Service study on Reye's syndrome and medications. Report of the pilot phase. *N Engl J Med* 1985;313:849-57.

**Tuberculosis — United States, 1985 —
and the Possible Impact of Human T-Lymphotropic Virus Type III/
Lymphadenopathy-Associated Virus Infection**

In 1985, a provisional total of 21,801 tuberculosis cases was reported to CDC, a 2.0% decline from the 1984 final total of 22,255 cases. Similarly, in 1985, the provisional incidence rate was 9.1 per 100,000 population, a decline of 3.2% from the 1984 final rate of 9.4/100,000. Compared with 1983, the number of reported cases in 1984 declined progressively, so that by week 52, there were 2,139 fewer cumulative provisional reported cases (Figure 5). Compared with 1984, there was no such progressive decline in 1985.

Reported by Div of Tuberculosis Control, Center for Prevention Svcs, CDC.

FIGURE 5. Difference in cumulative tuberculosis cases between 1984 and 1983 and between 1985 and 1984, by MMWR reporting week — United States



Tuberculosis — Continued

Editorial Note: From 1975 through 1978, the average annual decrease in reported tuberculosis cases was 5.7%. From 1978 through 1981, when there was a large influx of Southeast Asian refugees, the average decline was only 1.4%. The average decline of 6.7% from 1982 through 1984 indicated that the previous downward trend had resumed. The 2.0% decline in 1985 thus represents another slowing of this trend.

Although the reasons for the relatively small decline in 1985 cases are not fully known, evidence supports the hypothesis that human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) infection of persons infected with the tubercle bacillus has caused an increase in tuberculosis in some areas.

The suspicion that HTLV-III/LAV infection may be responsible for increased tuberculosis morbidity is based on the following:

1. Since other immunosuppressive disorders are associated with an increased risk of developing clinically apparent tuberculosis (1,2), there is a theoretical reason to believe that compromised immunity secondary to HTLV-III/LAV infection may favor activation of preexisting latent *Mycobacterium tuberculosis* infection.
2. Some of the areas with the largest tuberculosis morbidity increases this year (New York City, California, Florida, Texas) are also some of the areas that have reported the largest number of acquired immunodeficiency syndrome (AIDS) cases to date (3).
3. Data from New York City indicate that increased tuberculosis morbidity is occurring in areas of the city where most AIDS cases have occurred. Matching the New York City tuberculosis and AIDS case registers has revealed increasing numbers of AIDS patients with histories of tuberculosis. An increasing number of persons with histories of intravenous drug abuse—a known risk factor for AIDS—have been diagnosed as having tuberculosis (4).
4. In Dade County, Florida, a substantial number of persons with AIDS either had tuberculosis at the time AIDS was diagnosed or had it within the 18 months preceding the AIDS diagnosis (5). Based on an analysis currently in progress, 109 (10.0%) of the 1,094 AIDS patients reported to CDC from Florida through December 31, 1985, have also been diagnosed with tuberculosis.

To better understand the problem and to design the most effective and efficient program strategies, it will be essential to establish as soon as possible: (1) the proportion of tuberculosis patients who also have AIDS; (2) the proportion of specific subpopulations with tuberculosis that have HTLV-III/LAV infection; (3) the proportion of AIDS patients who have had tuberculosis diagnosed; (4) the relative risk among persons with both tuberculosis infection and HTLV-III/LAV infection of developing clinical tuberculosis, compared with suitable controls with tuberculous infection; (5) whether patients with HTLV-III/LAV infection and tuberculosis are more or less likely to transmit tuberculosis infection to others; (6) the validity of tuberculin skin-test results for persons with AIDS or HTLV-III/LAV infection; and (7) the efficacy of current treatment regimens among patients with HTLV-III/LAV infection and tuberculosis.

CDC's Division of Tuberculosis Control, Center for Prevention Services, is working closely with the Florida and Dade County health departments and the New York City Department of Health in designing and conducting studies to obtain answers to these questions.

References

1. Williams DM, Krick JA, Remington JS. Pulmonary infection in the compromised host. Part II. *Am Rev Respir Dis* 1976;114:593-627.
2. Millar JW, Home NW. Tuberculosis in immunosuppressed patients. *Lancet* 1979;i:1176-8.
3. CDC. Table III. Cases of specified notifiable diseases, United States, week ending December 28, 1985 and December 29, 1984 (52nd week). *MMWR* 1986;34:784.

Tuberculosis — Continued

4. Stoneburner RL, Kristal A. Increasing tuberculosis incidence and its relationship to acquired immunodeficiency syndrome in New York City. Atlanta, Georgia: International conference on acquired immunodeficiency syndrome (AIDS). April 14-17, 1985.
5. Pitchenik AE, Cole C, Russell BW, Fischl MA, Spira TJ, Snider DE. Tuberculosis, atypical mycobacteriosis, and the acquired immunodeficiency syndrome among Haitian and non-Haitian patients in South Florida. *Ann Intern Med* 1984;101:641-5.

*Epidemiologic Notes and Reports***Apparent Transmission of Human T-Lymphotropic Virus Type III/
Lymphadenopathy-Associated Virus from a Child to a Mother
Providing Health Care**

CDC has received a report from state and local health officials of a child with transfusion-associated infection caused by human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the virus that causes acquired immunodeficiency syndrome (AIDS). The child's mother appears to have been infected with HTLV-III/LAV while providing nursing care that involved extensive unprotected exposure to the child's blood and body secretions and excretions.

The child, a 24-month-old male, was diagnosed as having a congenital intestinal abnormality on day 4 of life. Over the next several months, he had numerous surgical procedures, including colonic and ileal resections, repairs of ostomies, a liver biopsy, and intravascular catheter replacements. The child has been hospitalized 17 months and has required intravenous hyperalimentation and continuous nasogastric feedings throughout his life. His illness was also characterized by frequent bouts of bacterial sepsis, many of which were apparently related to his gastrointestinal disease and indwelling intravascular catheter. Because of anemia due to chronic illness, multiple surgical procedures, gastrointestinal bleeding, and frequent blood drawing, the child required multiple transfusions between birth (February 1984) and early June 1985.

Because of the child's history of both recurrent bacterial sepsis and multiple transfusions, a blood sample was drawn for HTLV-III/LAV antibody in May 1985. This sample, and a second sample obtained 3 months later, were both positive by enzyme immunoassay (EIA); the second sample was tested by Western blot assay and was positive. In June 1985, the ratio of T-helper to T-suppressor lymphocytes (T_H/T_S) was normal (1.6). Serum obtained during an investigation in December 1985 was strongly positive for antibody to HTLV-III/LAV by EIA (absorbance > 2.0, negative cutoff = 0.083, absorbance ratio > 24). Western blot assay at CDC was positive for both the p24 and gp41 bands.* Cultures of the child's peripheral blood lymphocytes, saliva, and stools for HTLV-III/LAV have been negative.

Blood from 26 donors had been transfused to the child between birth and June 1985. One of these donors was a 34-year-old female whose serum, obtained in January 1986, was strongly positive for antibody to HTLV-III/LAV by both EIA (absorbance ratio > 20) and Western blot assay (positive gp41 and equivocal p24 bands). Her blood was transfused to the child in May 1984 before serologic testing of donors for HTLV-III/LAV was available. All other donors were seronegative.

*Results confirmed by competitive EIA for HTLV-III antibody performed by the Laboratory of Tumor Cell Biology, National Cancer Institute.

HTLV-III/LAV — Continued

The child's 32-year-old mother has been closely involved in the child's care during hospitalization and at home, which has required frequent contact with the child's blood and with other body fluids. Her activities included drawing blood through the child's indwelling catheter at least weekly, removing peripheral intravenous lines occasionally, emptying and changing ostomy bags daily for the 7 months these were in place, inserting rectal tubes daily to facilitate large-bowel clearing, changing diapers and surgical dressings, and changing nasogastric feeding tubes weekly. When interviewed, she did not recall any specific incidents of needlesticks or other parenteral exposures to the child's blood. However, the mother did not wear gloves, and on numerous occasions, her hands became contaminated with blood, feces (which often contained blood), saliva, and nasal secretions. She did not recall having open cuts or an exudative dermatitis on her hands; however, she often did not wash her hands immediately after blood or secretion contact.

In March, June, and October 1985, the mother donated blood; none of her donated blood was given to her child. As part of routine blood-donor screening, the blood was tested for HTLV-III/LAV antibody. She was seronegative by EIA in March and June. In October, a serum sample was repeatedly positive by EIA and was confirmed by Western blot assay. Serum obtained during an investigation in December 1985, and the October 1985 specimen, were both strongly positive by EIA (absorbance ratio > 24) and Western blot assay (positive p24 and gp41 bands) at CDC.* The mother remains clinically well; however, her T_H/T_S ratio was 0.9 (normal > 1.0) when tested in December 1985. Culture of her peripheral blood lymphocytes for HTLV-III/LAV was negative.

Extensive epidemiologic investigations did not reveal any other risk factors for infection in the mother or child. The mother was employed as a paramedic before the child's birth but denied needlestick injuries or exposure to AIDS patients. The child's father is negative for HTLV-III/LAV antibody* and is clinically well with a normal T_H/T_S ratio of 2.4.

Reported by AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: The child reported here most likely acquired the infection from transfusion of blood donated in May 1984 by a donor later found to be seropositive. The child's mother most likely acquired HTLV-III/LAV infection from her son while providing nursing care that involved extensive contact with his blood and other body secretions and excretions. She did not take precautions, such as wearing gloves, and often failed to wash her hands immediately after exposure.

Epidemiologic investigations did not reveal other risk factors for HTLV-III/LAV infection in the mother. The timing of her seroconversion (between June and October 1985) suggests that her exposure occurred after the birth of her child (February 1984). Limited case reports suggest that the seroconversion period for HTLV-III/LAV is approximately 1-6 months (1-3); there are no published reports of seroconversion periods greater than 6 months. Although initial attempts at virus isolation from the mother and child have been negative, the EIAs have been repeatedly reactive from multiple specimens in separate laboratories. The high absorbance ratios and presence of strong bands reacting to specific viral proteins on Western blot assay are most consistent with HTLV-III/LAV infection.

Previous CDC guidelines have emphasized that in hospital, institutional, and home-care settings, health-care workers or other persons providing care for patients with HTLV-III/LAV infection should wear gloves routinely during direct contact with the mucous membranes or nonintact skin of such patients (4). They should also wear gloves when handling items soiled with blood or other body secretions or excretions. Additional precautions, such as wearing gowns, masks, or eye coverings, may be appropriate if procedures involving more extensive

HTLV-III/LAV - Continued

contact with blood or other body secretions or excretions are performed. Education and foster care of children infected with HTLV-III/LAV, such as the child reported here, who lack control of their body secretions or excretions require special considerations as outlined previously (5).

Transmission of HTLV-III/LAV infection from child to parent has not been previously reported. The contact between the reported mother and child is not typical of the usual contact that could be expected in a family setting. None of the family members of the over 17,000 AIDS patients reported to CDC have been reported to have AIDS, except a small number of sexual partners of patients; children born to infected mothers; or family members who themselves had other established risk factors for AIDS. Seven studies involving over 350 family members of both adults and children with AIDS have not found serologic or virologic evidence of transmission of HTLV-III/LAV infection within families other than among sex partners, children born to infected mothers, or family members with risk factors for AIDS (6-12).

Although transmission of HTLV-III/LAV in the health-care setting has been reported, such transmission has been extremely rare. In five separate studies, a total of 1,498 health-care workers have been tested for antibody to HTLV-III/LAV. In these studies, 666 (44.5%) of the workers had direct parenteral (needlestick or cut) or mucous-membrane exposure to patients with AIDS or HTLV-III/LAV infection. Twenty-six persons in these five studies were seropositive when first tested; all but three of these persons belonged to groups recognized to be at increased risk for AIDS (13-17).

CDC is aware of only one other case in which HTLV-III/LAV transmission from a patient to a person providing care may have occurred through a nonparenteral route (18). In this report from England, a 44-year-old woman, who was not a health-care worker, developed AIDS after she had provided home nursing care for a Ghanaian man who was diagnosed with AIDS at postmortem examination. The care involved prolonged and frequent skin contact with body secretions and excretions. The woman recalled having some small cuts on her hands and an exacerbation of chronic eczema. She denied any sexual contact with the patient.

The occurrences of the case reported here and the English case suggest that HTLV-III/LAV infection may, on rare occasions, be transmitted during unprotected contact with blood or other potentially infectious body secretions or excretions in the absence of known parenteral or sexual exposure to these fluids. Adherence to published guidelines for health-care workers (4) should prevent transmission through exposure to blood or body fluids.

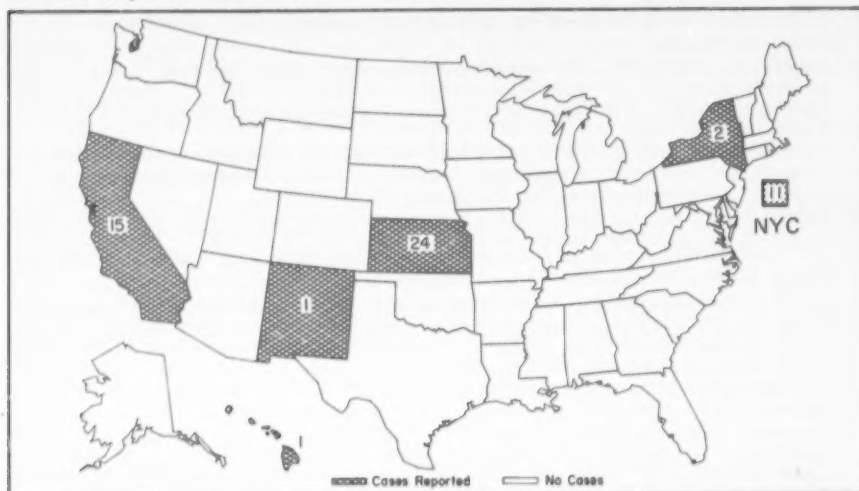
References

1. Ho DD, Samgadharan MG, Resnick L, Dimarzo-Veronese F, Rota TR, Hirsch MS. Primary human T-lymphotropic virus type III infection. *Ann Intern Med* 1985;103:880-3.
2. Cooper DA, Gold J, Maclean P, et al. Acute AIDS retrovirus infection. *Lancet* 1985;i:537-40.
3. Anonymous. Needlestick transmission of HTLV-III from a patient infected in Africa. *Lancet* 1984;ii:1376-7.
4. CDC. Recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. *MMWR* 1985;34:682-95.
5. CDC. Education and foster care of children infected with human T-lymphotropic virus type III/lymphadenopathy-associated virus. *MMWR* 1985;34:517-20.
6. Jason JM, McDougal JS, Dixon G, et al. HTLV-III/LAV antibody and immune status of household contacts and sexual partners of persons with hemophilia. *JAMA* 1986;255:212-5.
7. Lawrence DN, Jason JM, Bouhasin JD, et al. HTLV-III/LAV antibody status of spouses and household contacts assisting in home infusion of hemophilia patients. *Blood* 1985;66:703-5.
8. Kaplan JE, Oleske JM, Getchell JP, et al. Evidence against transmission of human T-lymphotropic virus/lymphadenopathy-associated virus (HTLV-III/LAV) in families of children with the acquired immunodeficiency syndrome. *Pediatr Infect Dis* 1985;4:468-71.

HTLV-III/LAV — Continued

9. Friedland GH, Saltzman BR, Rogers MF, et al. Lack of household transmission of HTLV-III infection. *N Engl J Med* (in press).
10. Thomas PA, Lubin K, Enlow RW, Getchell J. Comparison of HTLV-3 serology, T cell levels, and general health status of children whose mothers have AIDS with children of healthy inner city mothers in New York. International Conference on Acquired Immunodeficiency Syndrome (AIDS), Atlanta, GA, April 1985.
11. Fischl MA, Dickinson G, Scott G, Klimas N, Fletcher M, Parks W. Evaluation of household contacts of adult patients with the acquired immunodeficiency syndrome. International Conference on Acquired Immunodeficiency Syndrome (AIDS), Atlanta, GA, April 1985.
12. Redfield RR, Markham PD, Salahuddin SZ, et al. Frequent transmission of HTLV-III among spouses of patients with AIDS-related complex and AIDS. *JAMA* 1985;253:1571-3.
13. Hirsch MS, Wormser GP, Schooley RT, et al. Risk of nosocomial infection with human T-cell lymphotropic virus III (HTLV-III). *N Engl J Med* 1985;312:1-4.
14. McCray E. The Cooperative Needlestick Study Group. Prospective evaluation of health-care workers with parenteral or mucous membrane exposure to blood from patients with acquired immunodeficiency syndrome (AIDS), United States: an update. Program and abstracts of the 25th Inter-science Conference on Antimicrobial Agents and Chemotherapy. American Society For Microbiology 1985; Abstract 225.
15. Henderson DK. Personal communication.
16. Gerberding JL, Moss AR, Bryant CE, Levy J, Sande MA. Risk of acquired immune deficiency syndrome (AIDS) virus transmission to health care workers. Program and abstracts of the 25th Inter-science Conference on Antimicrobial Agents and Chemotherapy. American Society For Microbiology 1985; Abstract 226.
17. Weiss SH, Saxinger WC, Rechtman DJ, et al. HTLV-III infection among health care workers. *JAMA* 1985;254:2089-93.
18. Grint P, McEvoy M. Two associated cases of the acquired immune deficiency syndrome (AIDS). *Communicable Disease Report* 1985;42:4.

FIGURE 1. Reported measles cases — United States, weeks 1-4, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21040 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWARK000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

2/14/86

CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

February 14, 1986 / Vol. 35 / No. 6

- 81 In-Transit Chemical Spill — West Virginia
- 82 Update: Poliomyelitis Outbreak — Finland, 1984-1985
- 91 *Salmonella heidelberg* Outbreak at a Convention — New Mexico
- 92 Update: Influenza Activity — United States — and Influenza Type B Virus Drift

NEWARK PUBLIC LIBRARY

Perspectives in Disease Prevention and Health Promotion

In-Transit Chemical Spill — West Virginia

GOVT. PUBS.
DEPOSITORY 376

On October 14, 1985, a truck was transporting a 1-ton cylinder containing 2,000 pounds of antimony pentachloride from a production plant in Kentucky to a disposal site in New Jersey. At approximately 9 p.m., while the truck was parked at a company truck terminal in Wood County, West Virginia, a member of the county rescue squad noticed a liquid chemical leaking from the front of the trailer. The spill consisted of approximately 1,000 pounds of antimony pentachloride, which came from the tank's defective relief valve and valve seat. Antimony pentachloride reacts with atmospheric moisture to form hydrochloric acid.

Emergency-response efforts included simultaneous containment and evacuation. Soda ash, bicarbonate of soda, sand, and a trench were used to limit the ground spread of the liquid spill. Access to the leaking tank was obtained by using a backhoe to tear one side out of the trailer. The leak was plugged at 2:16 a.m., October 15, when a piece of wood dowel was put in the 1/8-inch-diameter hole. Police used public-address systems to notify the residents and roadblocks to control traffic. Approximately 500-600 residents were evacuated from their homes.

Area hospitals reported 12 people in the area were treated for a variety of ailments, including one chemical burn, dizziness, throat and stomach pains, and burning sensations. The chemical-burn victim was a member of the emergency-response team. None of the cases were reported to be serious.

This event provided an opportunity to identify communication weaknesses in the Wood County Emergency Plan. Because of the diversity of organized involvement in the community and the newness of the system, many officials were never contacted. The Mid-Ohio Valley Health Department (MOVHD) is assisting in strengthening these organizational links. MOVHD is currently gathering and summarizing all available data relating to this event. This information will help MOVHD assist in establishing criteria for an effective emergency plan for the six counties it serves.

Reported by L. Burtis, Mid-Ohio Valley Health Dept. LE Haddy, MS, State Epidemiologist, West Virginia State Dept of Health; Office of Health Assessment, Agency for Toxic Substances and Disease Registry, U.S. Public Health Service; Div of Environmental Hazards and Health Effects, Center for Environmental Health, CDC.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7109:

Chemical Spill — Continued

Editorial Note: Unintentional releases of hazardous materials occur throughout the United States and have potentially serious public health impacts. Approximately 25% of all releases occur when materials are being transported; 75% occur during their production, storage, or usage within plants (1). From 1971 to 1981, over 108,000 hazardous-material events occurred on public roads in the United States (2). Of these, 860 (0.8%) occurred in West Virginia. In-transit releases of hazardous materials occurred most frequently in Pennsylvania (11,961), Ohio (8,198), and Illinois (5,318).

The public health effects can be minimized with efficient emergency preparation and response. Hazardous-material events demonstrate the importance of ensuring that contingency plans are in place and the component activities are coordinated throughout the response. The U.S. Environmental Protection Agency (EPA), the U.S. Coast Guard (USCG), and the Federal Emergency Management Agency (FEMA) are responsible for providing consultation on the development and implementation of contingency plans and for providing, as needed, on-scene coordination in emergency situations. The Agency for Toxic Substances and Disease Registry (ATSDR) or CDC can assist in the development of the health components of these plans. EPA and USCG, as well as designated state and local emergency-response officials, depend on the emergency-response capabilities of ATSDR or CDC to help assess the potential health risks resulting from emergency events. The Emergency Response Coordinators of ATSDR are available to provide immediate health consultation 24 hours a day; telephone: FTS 236-4100 or commercial (404) 452-4100 (days), and FTS 236-2888 or commercial (404) 329-2888 (nights and weekends).

References

1. Industrial Economics Incorporated. Acute hazardous events database draft report. Washington, D.C.: The Office of Policy Analysis, U.S. Environmental Protection Agency, 1985 (unpublished).
2. Jossi DA. Data from the Department of Transportation's Hazardous Materials Information System. Washington, D.C.: Wilson Hill Associates, 1982.

*International Notes***Update: Poliomyelitis Outbreak — Finland, 1984-1985**

From August 1984 through January 1985, nine cases of paralytic disease and one case of aseptic meningitis due to wild poliovirus type 3 were reported in Finland. The diagnoses were confirmed by either viral isolation or serology. The poliomyelitis outbreak was recognized in late October 1984, when a 6-year-old child from Vantaa, a neighboring town to Helsinki, developed aseptic meningitis; poliovirus type 3, subsequently characterized as "wild-like," was isolated from the child's stool. Further investigation of healthy family members and other close contacts revealed that 39 (45%) of 86 were shedding poliovirus type 3 in their stools and/or throats. During late 1984 and early 1985, wild-like poliovirus 3 was isolated from sewage samples from 10 locations in the Helsinki district and from 13 of 21 other cities or towns sampled in the country.

Concurrent with the recognition of widespread poliovirus circulation in the country, a case of paralytic poliomyelitis was recognized in a 17-year-old patient with flaccid paralysis who

Poliomyelitis — Continued

had been diagnosed in late October 1984 as having Guillain-Barré syndrome. The diagnosis was confirmed following the isolation of wild-like poliovirus type 3 in mid-November. Surveillance was intensified, and six more cases of paralytic poliomyelitis were diagnosed in various regions of Finland over the next 3-month period—one with onset in late October, three in November, one in December, and the last in January 1985.

A retrospective review was conducted of all patients in Finland with paralysis seen by a neurologist and/or an infectious-disease consultant since summer 1983. Two additional clinically compatible cases of paralytic poliomyelitis (i.e., acute onset of asymmetric flaccid paralysis without sensory involvement) were identified. Diagnoses of poliomyelitis were confirmed serologically. One patient had onset of illness in August 1984; the other, in September 1984 (Table 1).

Routine immunization with inactivated polio vaccine (IPV) was initiated in Finland in 1957. The recommended schedule for primary immunization consists of three doses of IPV given at 5 months, 6 months, and 2 years of age and booster doses at the ages of 6-7 years, 11-12 years, and 16-17 years. Additionally, conscripts in the army are vaccinated at about 20 years of age. Further booster doses are recommended at 5-year intervals, especially for those traveling abroad (7).

Before this outbreak, the last reported case of paralytic poliomyelitis occurred in Finland in 1964 in an unvaccinated 1-year-old girl from whom poliovirus type 3 was isolated. Surveillance for polioviruses by survey screening of stools from preschool-aged children, sewage testing, and isolation of viruses from individuals with aseptic meningitis was carried out routinely from 1964 through 1982, with consistently negative results (1,2). Sewage testing and survey screening of stools were not done between 1982 and 1984, but stool specimens from approximately 1,000 patients with aseptic meningitis and other neurologic diseases suspected to be of viral origin were tested annually. No additional wild-like polioviruses were found.

As soon as widespread circulation of poliovirus type 3 was recognized, the health authorities recommended an extra dose of the IPV used in Finland for all children under 18 years of age. Approximately 1.5 million doses were administered during the 4-month period November 1984-February 1985. From mid-February to mid-March 1985, a mass campaign with trivalent oral polio vaccine (OPV) was conducted. A single dose of OPV was offered to every

TABLE 1. Clinical and epidemiologic data on poliomyelitis cases — Finland, August 1984-January 1985

Case no.	Age (yrs.)	Sex	Immunization history	Onset date	Clinical illness	Outcome follow-up	Poliovirus isolate
1	48	M	None	8/84	Paralysis	Residual*	None
2	28	F	5 IPV	9/84	Paralysis	Residual*	None
3	6	M	3 IPV	10/84	Aseptic meningitis	Healthy	P3
4	17	M	5 IPV	10/84	Quadriplegia	Died	P3
5	14	M	3 IPV	10/84	Paralysis	Weakness†	P3
6	31	F	None	11/84	Paralysis	Residual*	P3
7	12	M	5 IPV	11/84	Paralysis	Residual*	P3
8	26	M	5 IPV	11/84	Paralysis	Weakness†	P3
9	33	M	1 IPV	12/84	Paralysis	Residual*	P3
10	28	F	5 IPV	1/85	Paralysis	Residual*	None

*Residual refers to persistent residual paralysis 60 days after onset.

†Patients had only weakness of the affected limbs 60 days after onset.

Poliomyelitis — Continued

person in the country, except infants under 6 months of age. Immune-deficient individuals and their household contacts also were excluded from the OPV campaign and were offered a more potent IPV that is more immunogenic than the usually available IPV. Overall, an estimated 94% of the target population of 4.8 million received a dose of OPV. Following the OPV campaign, routine childhood immunization was continued with the standard IPV. The more immunogenic IPV is expected to be in use in all areas of Finland by early 1986.

Regular screening for polioviruses in sewage and active surveillance for aseptic meningitis and other neurologic illnesses was reinstituted. No wild- or vaccine-like polioviruses have been isolated from the sewage specimens from various cities since May 1985. No cases of poliomyelitis were reported from neighboring countries, some of which use IPV exclusively.

All poliovirus type 3 isolates from the outbreak in Finland that were analyzed by oligonucleotide fingerprinting (3) were shown to be closely related wild strains. Sera from U.S. children in three age groups who had received at least three doses of OPV were tested for the presence of neutralizing antibodies to the Finland isolate (P3/Fin/84/23127) and three other genetically distinct poliovirus type 3 strains (Sabin 3, Saukett, and P3/USA/80/1565) (Table 2). Neutralizing antibodies to all four strains were detected in 97% of the sera from children aged 16-25 months and in 96% of the sera from children aged 5-7 years. A greater proportion of children in the 10- to 12-year age group had neutralizing antibodies to Sabin 3 (92%) and P3/USA/80/1565 (96%) than to Saukett (79%) or P3/Finland/84/23127 (75%).

Reported by National Public Health Institute and National Board of Health, Helsinki, Finland; Div of Viral Diseases, Center for Infectious Diseases, Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: The occurrence of poliomyelitis and the isolation of wild poliovirus type 3 in October 1984 were the first proof of indigenous wild poliovirus circulation in Finland during the last 20 years.

The IPV preparation used in Finland for the past 20 years induces low levels of antibodies to poliovirus type 3 but relatively higher levels to poliovirus types 1 and 2 (1). A seroprevalence survey in 1982 among 3-year-old children in Finland who had received full primary

TABLE 2. Prevalence of neutralizing antibodies to different poliovirus type 3 strains in sera of children immunized in the United States with three doses of OPV — Philadelphia, Pennsylvania, 1982-1984, and Massachusetts, 1982-1983

Age group	No. tested	Percent seropositive at 1:4 dilution			
		Sabin 3*	Saukett†	P3/USA/80/1565§	P3/Fin/84/23127¶
16-25 mos.	71**	99††	97††	97††	99††
5-7 yrs.	24§§	100	100	100	96
10-12 yrs.	24§§	92	79	96	75

*Immunizing strain in the United States.

†Wild strain used to make type 3 component of IPV.

§Wild virus isolate from a U.S. patient who contracted poliomyelitis in 1980 shortly after return from Mexico (9).

¶Wild poliovirus type 3 from Finland, isolated from healthy family contact of patient no. 3 (Table 1).

**Arbitrary subsample of well Philadelphia children participating in a study of simultaneous administration of multiple antigens in 1982-1984.

††Sera from two children were not available in sufficient amounts for testing at dilutions lower than 1:10. For these sera, titers < 1:10 were assumed to be negative at a 1:4 dilution.

§§Arbitrary subsample of well Massachusetts students participating in a cluster-sample serosurvey in 1982 and 1983.

Poliomyelitis — Continued

series of IPV showed that only 30% had neutralizing antibodies to type 3 poliovirus at a dilution of 1:4 (1). In some children, a secondary seroresponse followed revaccination, implying that they may have been immune before revaccination (1). As a consequence of this and other serosurveys, the health authorities in Finland decided to use a more immunogenic IPV beginning in 1986.

There also may have been a gradual decline in vaccination coverage in recent years in Finland. Coverage assessments for two doses of IPV in the early 1970s showed approximately 99% coverage. Coverage assessments for complete three-dose primary vaccination became available beginning in the late 1970s and suggested a decline among 3-year-old children, reaching a low of 78% in 1983. Vaccination coverage is much higher among school-aged children, since additional vaccination is given through the schools.

Among the younger age groups of U.S. children tested, significant differences were not demonstrated in the percent seropositive to the Finland isolate and to Sabin type 3 strain. The finding of slightly lower seropositivity rates against Saukett and P3/Fin/23127/84 isolates in the oldest group of U.S. children than against the Sabin 3 vaccine strain is consistent with well-documented antigenic differences among poliovirus strains within a serotype (5,6) and declines in neutralizing antibody titers with time since immunization. Lower neutralization titers have been found in serosurveys that use a heterologous strain of the immunizing vaccine virus as the test antigen than in those that used a homologous antigen, i.e., the actual vaccine strain (7,8). When neutralization titers to the immunizing strains are low ($\leq 1:8$), neutralizing antibodies to heterologous strains may be present but not detected at dilutions of 1:4, the lowest practical dilution in a standard neutralization test. When tested for neutralizing antibody to Sabin 3 virus, all three age groups showed 90% or higher seroprevalence, indicating that the U.S. population of children immunized with OPV would be protected if exposed to the Finland isolate.

The conditions responsible for the poliomyelitis outbreak and for wide dissemination of the wild poliovirus type 3 in Finland are not known definitively, but may have involved a combination of factors, including: (1) the immunogenicity of the type 3 component of the IPV used in Finland during the past 20 years was relatively low; (2) vaccine coverage may have declined in recent years; and (3) the antigenic differences between the Finland strain and the type 3 component of the Finland IPV may have allowed substantial replication and transmission of the outbreak virus among people with very low titers of neutralizing antibodies to type 3 polioviruses.

Since Finland is no longer endemic or epidemic for polio disease, CDC Advisory Memorandum No. 76 (issued January 2, 1985), which recommended that travelers to Finland be immune to poliomyelitis, was withdrawn on August 21, 1985 (see CDC Advisory Memorandum No. 82).

References

1. Lapinleimu K. Elimination of poliomyelitis in Finland. *Rev Infect Dis* 1984; 6(suppl 2):S457-60.
2. Oker-Blom N, Penttinen K, Weckström P. Inactivated poliovirus vaccine in Finland. *Rev Infect Dis* 1984; 6(suppl 2):S461-2.
3. Kew OM, Nottay BK. Molecular epidemiology of polioviruses. *Rev Infect Dis* 1984; 6(suppl 2):S499-S504.
4. Ruuskanen O, Salmi TT, Stenvik M, Lapinleimu K. Inactivated poliovaccine: adverse reactions and antibody response. *Acta Paediatr Scand* 1980; 69:397-401.
5. Osterhaus ADME, van Wezel AL, van Steenis B, Drost GA, Hazendonk TG. Monoclonal antibodies to polioviruses. Production of specific monoclonal antibodies to the Sabin vaccine strains. *Intervirology* 1981; 16:218-24.

Poliomyelitis—Continued

6. Minor PD, Schild GC, Ferguson M, et al. Genetic and antigenic variation in type 3 polioviruses: characterization of strains by monoclonal antibodies and T1 oligonucleotide mapping. *J Gen Virol* 1982;61:167-76.
7. Bottiger M. Neutralizing capacity of poliovirus type 3 antibodies against 5 different intratypic variants of poliovirus type 3. *Arch Gesamte Virusforsch* 1971;35:251-5.
8. Dubes GR, Archetti I, Wenner HA. Antigenic variations among type 3 polioviruses. *Am J Hygiene* 1959;70:91-105.
9. CDC. Imported poliomyelitis—Oregon. *MMWR* 1980;29:329-30.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	6th Week Ending			Cumulative, 6th Week Ending		
	Feb. 8, 1986	Feb. 9, 1985	Median 1981-1985	Feb. 8, 1986	Feb. 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	342	95	N	1,409	608	N
Aseptic meningitis	94	75	77	459	408	510
Encephalitis: Primary (arthropod-borne & unsp.)	15	17	17	88	84	97
Post-infectious	-	3	2	8	13	8
Gonorrhea: Civilian	12,906	14,614	16,510	89,232	89,482	108,823
Military	228	194	541	1,503	1,688	3,053
Hepatitis: Type A	490	448	427	2,513	2,236	2,316
Type B	429	518	448	2,403	2,535	2,489
Non A, Non B	53	73	N	278	412	N
Unspecified	98	96	101	557	484	786
Legionellosis	10	12	N	62	82	N
Leprosy	6	-	5	32	15	26
Malaria	17	7	18	89	60	73
Measles: Total*	18	18	18	97	97	67
Indigenous	18	15	N	91	38	N
Imported	1	3	N	6	31	N
Meningococcal infections: Total	61	60	71	341	299	353
Civilian	61	60	71	340	299	349
Military	-	-	-	1	-	1
Mumps	57	61	84	233	284	463
Pertussis	62	19	19	188	127	118
Rubella (German measles)	10	4	11	31	23	85
Syphilis (Primary & Secondary): Civilian	403	550	568	2,472	2,800	3,394
Military	6	5	7	21	20	45
Toxic Shock syndrome	8	8	N	30	40	N
Tuberculosis	298	373	453	1,693	1,732	2,173
Typhoid fever	2	-	1	9	15	11
Typhus fever, tick-borne (RMSF)	3	7	6	23	20	38
Rabies, animal	1	2	1	6	3	7
	50	108	91	428	416	473

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1985
Anthrax	-	Leptospirosis	6
Botulism Foodborne	-	Plague	-
Infant	-	Poliomyelitis, Paralytic	-
Other	6	Psittacosis	2
Brucellosis	-	Rabies, human	-
Cholera	5	Tetanus (all I.S.C. 1)	4
Congenital rubella syndrome	-	Toxinosia	7
Congenital syphilis, ages < 1 year	1	Typhus fever, flea-borne (endemic, murina)	-
Diphtheria	-		

*One of the 19 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
February 8, 1986 and February 9, 1985 (6th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Chlamydia)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA, NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	1,409	94	88	6	89,232	89,482	490	429	53	98	10	32
NEW ENGLAND	91	4	4	-	2,049	2,810	7	16	3	6	4	1
Maine	2	-	-	-	102	141	-	-	-	-	-	-
NH	3	-	1	-	55	61	-	-	-	-	-	-
VT	1	-	-	-	37	29	-	-	-	-	2	-
Mass	60	3	2	-	895	988	4	13	3	6	1	1
RI	7	-	-	-	188	228	1	1	-	-	1	-
Conn	18	1	1	-	773	1,363	2	2	-	-	-	-
MID ATLANTIC	500	24	17	-	15,936	13,017	9	22	1	19	-	4
Upstate NY	45	9	6	-	1,743	1,431	8	18	1	1	-	-
N.Y. City	316	1	6	-	9,843	6,128	1	1	-	18	-	4
N.J.	89	3	2	-	1,811	1,783	-	-	-	-	-	-
Pa.	60	11	3	-	2,539	3,675	-	3	-	-	-	-
E.N. CENTRAL	70	14	15	1	12,297	12,773	19	38	3	2	3	1
Ohio	27	4	6	1	3,352	3,139	5	20	2	-	1	-
Ind.	12	-	-	-	2,345	1,130	4	1	-	1	-	-
Ill.	16	2	-	-	1,758	4,186	-	-	-	-	-	-
Mich.	15	8	9	-	4,165	3,862	10	17	1	1	2	1
Wis.	-	-	-	-	877	456	-	-	-	-	-	-
W.N. CENTRAL	34	2	-	1	4,824	4,979	14	22	2	-	-	3
Minn.	15	-	-	-	684	774	1	3	1	-	-	3
Iowa	2	1	-	-	482	512	-	4	-	-	-	-
Mo.	9	-	-	-	2,196	2,184	2	12	-	-	-	-
N. Dak.	3	-	-	-	47	26	-	-	-	-	-	-
S. Dak.	-	-	-	-	74	104	7	-	-	-	-	-
Nebr.	3	1	-	-	278	500	1	1	-	-	-	-
Kans.	2	-	-	1	663	879	3	2	1	-	-	-
S. ATLANTIC	191	13	14	4	18,596	18,246	48	94	5	8	1	-
Del.	5	-	2	-	394	412	2	-	-	-	-	-
Md.	20	3	5	-	2,692	2,523	-	3	-	-	-	-
D.C.	20	-	-	-	1,956	1,487	-	4	-	-	-	-
Va.	24	2	4	1	2,187	1,959	4	7	-	-	-	-
W. Va.	-	-	-	-	259	280	-	4	1	1	-	-
N.C.	14	1	2	-	3,336	3,620	1	8	-	4	-	-
S.C.	8	-	-	-	1,608	2,431	2	-	2	-	1	-
Ga.	5	2	-	-	-	-	12	43	1	-	-	-
Fla.	95	5	1	3	6,164	5,534	25	25	1	3	-	-
E.S. CENTRAL	21	3	10	-	7,787	7,936	5	20	2	2	-	-
Ky.	5	2	5	-	918	781	1	9	1	1	-	-
Tenn.	11	1	1	-	3,312	3,170	2	11	1	1	-	-
Ala.	1	U	4	-	1,862	2,490	U	U	U	U	U	-
Miss.	4	-	-	-	1,675	1,495	2	-	-	-	-	-
W.S. CENTRAL	125	10	3	-	11,572	13,493	55	25	1	17	-	-
Ark.	5	-	-	-	1,124	1,312	2	-	-	1	-	-
La.	25	-	-	-	2,060	3,024	2	2	-	-	-	-
Okla.	2	2	-	-	1,396	1,411	3	1	1	2	-	-
Tex.	93	8	3	-	6,992	7,746	48	22	-	14	-	-
MOUNTAIN	17	10	5	-	2,916	3,143	88	49	10	9	-	1
Mont.	-	-	-	-	84	95	5	4	-	-	-	-
Idaho	1	1	-	-	74	115	-	2	-	-	-	-
Wyo.	2	-	2	-	67	91	1	-	-	-	-	-
Colo.	2	2	-	-	720	880	3	3	-	1	-	-
N. Mex.	4	1	-	-	350	377	12	6	-	-	-	-
Ariz.	2	6	2	-	829	942	58	31	9	7	-	1
Utah	2	-	1	-	140	143	4	2	-	1	-	-
Nev.	4	-	-	-	652	500	5	1	1	-	-	-
PACIFIC	360	14	20	-	13,475	13,085	247	143	28	35	2	22
Wash.	19	2	1	-	917	987	18	22	1	-	-	1
Oreg.	8	-	-	-	518	812	77	17	2	-	-	-
Calif.	328	11	17	-	11,453	10,746	152	103	23	33	2	21
Alaska	1	-	2	-	449	326	-	-	-	-	-	-
Hawaii	4	1	-	-	138	214	-	1	-	-	-	-
Guam	-	U	-	-	-	14	U	U	U	U	U	-
PR	15	-	-	-	241	525	3	5	-	-	-	-
VI	-	-	-	-	22	47	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	-	-	72	U	U	U	U	U	-
Amer. Samoa	-	U	-	-	-	-	U	U	U	U	U	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 8, 1986 and February 9, 1985 (6th Week)

Reporting Area	Malana	Measles (Rubeola)					Menin- gococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		Cum		Cum		Cum			
		1986	Cum 1986	1986	Cum 1986			Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	
UNITED STATES	69	18	91	1	6	67	341	57	233	62	188	127	10	31	23
NEW ENGLAND	1	-	-	-	-	-	25	1	4	2	14	1	-	-	2
Maine	-	-	-	-	-	-	5	-	-	-	1	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	1	-	5	-	-	-	1
Vt.	-	-	-	-	-	-	4	-	-	1	1	-	-	-	-
Mass.	1	-	-	-	-	-	5	-	-	-	4	-	-	-	-
R.I.	-	-	-	-	-	-	2	1	3	-	1	-	-	-	-
Conn.	-	-	-	-	-	-	9	-	-	1	2	-	-	-	-
MID ATLANTIC	10	-	11	-	2	1	52	3	16	1	29	21	3	9	5
Upstate N.Y.	-	-	-	-	2	1	13	1	6	1	20	8	-	6	1
N.Y. City	4	-	11	-	-	-	8	-	-	-	-	5	3	3	3
N.J.	2	-	-	-	-	-	6	2	5	-	-	-	-	-	1
Pa.	4	-	-	-	-	-	25	-	5	-	9	8	-	-	-
E.N. CENTRAL	2	1	1	-	-	18	38	17	93	25	42	34	-	1	3
Ohio	1	-	-	-	-	-	17	8	31	21	32	8	-	-	-
Ind.	-	-	-	-	-	-	6	1	2	-	3	10	-	-	-
Ill.	-	1	1	-	-	2	7	4	36	1	1	3	-	-	-
Mich.	1	-	-	-	-	-	8	4	24	3	4	1	-	-	3
Wis.	-	-	-	-	-	16	-	-	-	-	2	12	-	1	-
W.N. CENTRAL	1	-	42	-	-	-	14	2	12	-	14	9	2	2	4
Minn.	-	-	-	-	-	-	1	-	-	-	7	1	-	-	-
Iowa	1	-	-	-	-	-	4	-	4	-	2	-	-	-	-
Mo.	-	-	-	-	-	-	7	1	2	-	1	3	1	1	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kans.	-	-	42	-	-	-	2	1	6	-	3	2	1	1	4
S. ATLANTIC	12	1	1	1	1	3	56	13	31	13	30	17	2	3	1
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Md.	3	-	-	-	-	1	5	-	2	-	4	2	-	-	-
D.C.	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Va.	5	-	-	-	-	-	5	1	5	1	4	-	-	-	-
W. Va.	-	-	-	-	-	-	1	7	14	-	-	-	-	-	-
N.C.	2	-	-	-	-	-	9	2	3	1	6	4	-	-	-
S.C.	-	-	-	-	-	-	10	-	2	-	1	-	-	-	1
Ga.	1	-	-	-	-	-	6	-	1	9	11	3	-	-	-
Fla.	1	1	1†	1	1	1	19	3	4	2	4	8	2	3	-
E.S. CENTRAL	2	-	-	-	-	-	30	-	3	-	5	3	-	1	1
Ky.	2	-	-	-	-	-	17	-	2	-	1	1	-	1	1
Tenn.	-	-	-	-	-	-	7	-	1	-	1	1	-	-	-
Ala.	-	U	-	U	-	-	6	U	-	U	3	1	U	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	-	4	4	-	-	-	16	6	15	5	6	11	-	-	1
Ark.	-	-	-	-	-	-	-	1	2	-	-	6	-	-	1
La.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Okla.	-	-	-	-	-	-	4	N	N	5	6	5	-	-	-
Tex.	-	4	4	-	-	-	11	5	13	-	-	-	-	-	-
MOUNTAIN	3	2	8	-	2	31	20	9	34	12	25	4	-	-	-
Mont.	-	-	-	-	-	31	2	-	1	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	5	7	-	-	-	-
Wyo.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Colo.	1	-	-	-	-	-	2	2	3	1	4	2	-	-	-
N. Mex.	-	2	8	-	2	-	3	N	N	1	5	1	-	-	-
Ariz.	1	-	-	-	-	-	7	7	27	4	8	1	-	-	-
Utah	-	-	-	-	-	-	2	-	1	1	1	-	-	-	-
Nev.	1	-	-	-	-	-	2	-	2	-	-	-	-	-	-
PACIFIC	38	10	24	-	1	14	90	6	25	4	23	27	3	15	6
Wash.	4	6	6	-	-	1	12	-	-	3	9	2	-	-	-
Oreg.	4	-	-	-	-	-	8	N	N	1	1	4	-	-	-
Calif.	30	4	17	-	1	11	66	3	20	-	11	19	3	15	6
Alaska	-	-	-	-	-	-	4	1	2	-	1	-	-	-	-
Hawaii	-	-	1	-	-	2	-	2	3	-	1	2	-	-	-
Guam	-	U	-	U	-	7	-	U	-	U	-	-	U	-	-
P.R.	1	-	-	-	-	20	-	1	8	-	2	1	-	-	4
V.I.	-	-	-	-	-	3	-	-	2	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable †International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 8, 1986 and February 9, 1985 (6th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ramia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	2,472	2,800	8	1,693	1,732	9	23	8	428
NEW ENGLAND	72	64	-	61	67	-	1	1	-
Maine	3	2	-	10	2	-	-	-	-
NH	2	2	-	-	5	-	-	-	-
Vt.	4	-	-	2	-	-	-	-	-
Mass	38	34	-	22	40	-	1	1	-
Ri	3	1	-	4	6	-	-	-	-
Conn	22	25	-	23	14	-	-	-	-
MID ATLANTIC	363	376	1	326	380	-	2	-	54
Upstate N.Y.	20	16	-	63	44	-	-	-	6
N.Y. City	238	238	-	157	203	-	2	-	-
N.J.	84	71	-	66	18	-	-	-	-
Pa.	21	51	1	40	115	-	-	-	48
E.N. CENTRAL	60	144	2	259	214	1	2	-	7
Ohio	6	12	2	34	40	1	-	-	-
Ind.	24	10	-	31	26	-	-	-	1
Ill.	9	83	-	134	98	-	-	-	-
Mich.	14	32	-	48	39	-	2	-	2
Wis.	5	7	-	12	11	-	-	-	4
W.N. CENTRAL	23	36	1	21	37	4	2	-	52
Minn.	5	14	-	2	6	-	1	-	-
Iowa	3	6	-	2	12	1	-	-	13
Mo.	12	9	-	14	11	3	1	-	5
N. Dak.	2	-	-	2	1	-	-	-	21
S. Dak.	-	1	1	-	2	-	-	-	13
Nebr.	-	1	-	-	2	-	-	-	-
Kans.	1	5	-	1	3	-	-	-	-
S. ATLANTIC	478	727	1	296	323	2	1	3	82
Del.	2	4	-	-	4	-	-	-	-
Md.	52	69	-	15	28	1	-	-	52
D.C.	35	35	-	17	18	-	-	-	-
Va.	60	38	-	17	11	-	-	-	11
W. Va.	3	-	-	8	13	-	-	-	1
N.C.	72	77	1	43	27	-	1	2	-
S.C.	85	95	-	50	45	-	-	1	2
Ga.	-	-	-	35	45	1	-	-	11
Fla.	169	409	-	111	132	-	-	-	5
E.S. CENTRAL	208	261	-	153	156	1	-	2	21
Ky.	12	9	-	51	35	1	-	1	3
Tenn.	94	62	-	40	40	-	-	-	11
Ala.	58	108	U	62	66	-	-	1	7
Miss.	44	82	-	-	15	-	-	-	-
W.S. CENTRAL	622	631	1	195	151	1	-	-	46
Ark.	19	37	-	25	7	1	-	-	7
La.	109	129	-	71	41	-	-	-	-
Okla.	21	26	1	17	17	-	-	-	5
Tex.	473	439	-	82	86	-	-	-	34
MOUNTAIN	86	103	2	35	24	-	1	-	105
Mont.	1	-	-	1	2	-	-	-	45
Idaho	1	2	1	2	-	-	-	-	-
Wyo.	-	3	-	-	1	-	-	-	44
Colo.	28	26	-	-	-	-	-	-	-
N. Mex.	10	6	-	6	4	-	-	-	2
Ariz.	31	61	1	17	14	-	-	-	14
Utah	3	1	-	-	-	-	1	-	-
Nev.	12	4	-	9	3	-	-	-	-
PACIFIC	560	458	-	347	380	-	14	-	61
Wash.	16	17	-	22	13	-	2	-	-
Oreg.	15	19	-	13	11	-	-	-	-
Calif.	521	414	-	287	321	-	11	-	60
Alaska	-	-	-	5	18	-	-	-	1
Hawaii	8	8	-	20	17	-	1	-	-
Guam	-	2	U	-	3	-	-	-	-
P.R.	83	116	-	36	20	-	-	-	4
V.I.	-	-	-	-	-	-	-	-	-
Pac. Trust Terr.	-	9	U	-	5	-	-	-	-
Amer. Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
February 8, 1986 (6th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	753	539	129	40	21	24	56	S. ATLANTIC	1,307	817	312	112	26	39	79
Boston, Mass.	195	118	40	16	12	9	18	Atlanta, Ga.	195	118	44	27	4	2	5
Bridgeport, Conn.	49	36	8	3	2	-	2	Baltimore, Md.	106	71	22	8	1	4	3
Cambridge, Mass.	33	31	2	-	-	-	3	Charlotte, N.C.	70	40	22	5	1	2	8
Fall River, Mass.	38	31	5	2	-	-	-	Jacksonville, Fla.	112	66	29	8	4	5	5
Hartford, Conn.	39	28	6	1	1	3	-	Miami, Fla.	90	48	22	14	-	2	2
Lowell, Mass.	20	15	4	1	-	-	-	Norfolk, Va.	61	27	23	8	-	3	8
Lynn, Mass.	29	22	4	2	1	-	1	Richmond, Va.	107	67	20	8	3	9	9
New Bedford, Mass.	28	22	6	-	-	-	3	Savannah, Ga.	41	31	5	3	2	-	4
New Haven, Conn.	61	43	9	5	2	2	-	St. Petersburg, Fla.	156	128	22	5	-	1	12
Providence, R.I.	92	65	15	3	1	8	9	Tampa, Fla.	95	68	19	5	-	2	14
Somerville, Mass.	14	12	2	-	-	-	-	Washington, D.C.	258	141	80	21	7	9	8
Springfield, Mass.	47	30	11	3	1	2	4	Wilmington, Del.	16	12	4	-	-	-	1
Waterbury, Conn.	42	34	6	1	1	-	5								
Worcester, Mass.	66	52	11	3	-	-	10								
MID ATLANTIC	2,976	2,038	558	230	63	85	175	E.S. CENTRAL	828	536	187	51	34	20	55
Albany, N.Y.	75	48	15	6	1	5	1	Birmingham, Ala.	125	88	24	4	4	5	4
Allentown, Pa.	26	19	6	1	-	-	-	Chattanooga, Tenn.	55	37	14	3	1	-	7
Buffalo, N.Y.	134	96	23	6	2	3	16	Knoxville, Tenn.	72	50	14	-	3	5	6
Camden, N.J.	51	40	10	-	-	1	-	Louisville, Ky.	130	81	31	11	5	2	9
Elizabeth, N.J.	22	17	4	1	-	-	2	Memphis, Tenn.	184	131	38	8	5	2	12
Encl. Pa.†	42	35	4	1	1	1	4	Mobile, Ala.	122	63	38	12	6	3	7
Jersey City, N.J.	51	29	13	6	-	3	1	Montgomery, Ala.	28	22	4	1	-	1	1
N.Y. City, N.Y.	1,541	1,021	305	152	32	31	81	Nashville, Tenn.	112	64	24	12	10	2	9
Newark, N.J.	120	48	31	13	5	21	6								
Paterson, N.J.	27	17	8	1	-	1	4	W.S. CENTRAL	1,460	866	352	122	62	58	70
Philadelphia, Pa.	405	271	77	30	11	16	22	Austin, Tex.	54	39	7	3	5	-	2
Pittsburgh, Pa.†	47	33	13	1	-	-	2	Baton Rouge, La.	58	30	17	5	3	3	2
Reading, Pa.	44	41	3	-	-	-	6	Corpus Christi, Tex.	34	23	9	2	-	-	2
Rochester, N.Y.	157	123	24	3	6	1	14	Dallas, Tex.	226	116	57	25	17	11	9
Schenectady, N.Y.‡	33	33	-	-	-	-	1	El Paso, Tex.	69	45	14	5	2	3	2
Scranton, Pa.†	34	34	-	-	-	-	7	Fort Worth, Tex.	91	53	22	7	3	6	3
Syracuse, N.Y.	60	48	8	2	1	1	4	Houston, Tex.	339	154	108	43	18	16	4
Trenton, N.J.	45	29	8	3	4	1	-	Little Rock, Ark.	90	55	21	7	3	4	9
Utica, N.Y.	31	26	4	1	-	-	1	New Orleans, La.	131	79	35	4	6	7	2
Yonkers, N.Y.	31	28	2	1	-	-	3	San Antonio, Tex.	195	144	34	9	4	4	25
								Shreveport, La.	70	52	13	3	-	2	4
								Tulsa, Okla.	103	76	15	9	1	2	6
EN CENTRAL	2,414	1,713	406	134	67	95	93	MOUNTAIN	714	453	162	51	21	26	42
Akron, Ohio	54	39	9	1	3	2	3	Albuquerque, N.Mex.	96	63	14	8	5	6	8
Canton, Ohio	54	38	10	3	-	3	4	Colorado Springs, Colo.	42	23	14	3	1	1	1
Chicago, Ill.‡	553	462	11	26	16	37	16	Denver, Colo.	125	71	39	8	4	3	5
Cincinnati, Ohio	152	102	41	5	1	3	11	Las Vegas, Nev.	102	57	29	9	3	4	6
Cleveland, Ohio	194	124	48	11	6	5	4	Odgen, Utah	24	21	2	-	1	-	5
Columbus, Ohio	118	78	24	9	4	3	-	Phoenix, Ariz.	161	107	31	10	4	9	6
Dayton, Ohio	118	76	28	8	2	4	3	Pueblo, Colo.	23	17	5	-	1	-	3
Detroit, Mich.	318	203	67	28	13	7	11	Salt Lake City, Utah	38	23	10	3	1	1	1
Evansville, Ind.	42	39	2	-	-	1	3	Tucson, Ariz.	103	71	18	10	1	3	7
Fort Wayne, Ind.	53	39	6	3	2	3	4								
Gary, Ind.	20	11	6	1	1	1	-	PACIFIC	2,304	1,535	475	184	85	48	173
Grand Rapids, Mich.	60	40	9	4	3	4	3	Berkeley, Calif.	23	15	4	3	-	1	3
Indianapolis, Ind.	175	114	39	15	2	5	1	Fresno, Calif.	120	77	30	6	3	4	13
Madison, Wis.	37	28	6	3	-	-	6	Glendale, Calif.	50	37	10	2	-	-	2
Milwaukee, Wis.	126	94	21	3	3	5	5	Honolulu, Hawaii	85	52	21	8	3	1	8
Peoria, Ill.	35	24	7	2	-	2	3	Long Beach, Calif.	113	79	26	4	1	3	19
Rockford, Ill.	38	24	8	4	1	1	4	Los Angeles, Calif.	769	519	156	52	22	5	33
South Bend, Ind.	68	43	18	4	2	1	3	Oakland, Calif.	77	56	12	3	3	3	4
Toledo, Ohio	130	92	27	1	4	6	8	Pasadena, Calif.	23	18	2	-	2	1	3
Youngstown, Ohio	69	43	19	3	4	-	1	Portland, Oreg.	117	85	20	6	4	2	8
								Sacramento, Calif.	135	85	28	13	7	2	9
W.N. CENTRAL	802	561	150	48	15	28	49	San Diego, Calif.	183	119	39	16	5	4	30
Des Moines, Iowa	57	45	8	4	-	2	4	San Francisco, Calif.	193	115	46	27	3	2	9
Duluth, Minn.	29	23	4	1	-	1	-	San Jose, Calif.	172	111	34	14	5	7	13
Kansas City, Kans.	41	27	10	3	-	1	3	Seattle, Wash.	153	101	32	6	4	10	9
Kansas City, Mo.	141	88	40	7	2	4	10	Spokane, Wash.	52	41	6	2	1	2	8
Lincoln, Nebr.	42	32	5	1	3	1	3	Tacoma, Wash.	39	25	9	2	2	1	2
Minneapolis, Minn.	96	64	17	6	-	7	0								
Omaha, Nebr.	95	71	13	4	1	6	4								
St. Louis, Mo.	161	120	22	12	4	3	8	TOTAL	13,558†	9,058	2,731	952	374	421	792
St. Paul, Minn.	66	49	12	3	1	1	6								
Wichita, Kans.	74	42	21	5	4	2	5								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

‡ Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Epidemiologic Notes and Reports

***Salmonella heidelberg* Outbreak at a Convention — New Mexico**

Of approximately 1,000 persons attending a convention October 6-8, 1985, in Santa Fe, New Mexico, 91 reported a diarrheal illness with onset of symptoms between 10 a.m., October 7, and 11 p.m., October 12. *Salmonella heidelberg*, sensitive to all antibiotics tested, was isolated from the stools of five attendees. Three persons were hospitalized. The ill attendees reported spending over \$11,000 on medical costs and lost 117 days of work.

A telephone survey of 76 convention attendees living in New Mexico showed that, of four meals consumed at the convention, only the breakfast of October 7 was significantly associated with illness ($p < 0.002$).

In a subsequent mail survey of the approximately 550 convention attendees who ate the breakfast, the only food significantly associated with illness among the 60% who responded was eggs. All of 91 ill attendees ate the eggs, compared with 189 (92%) of 206 well attendees ($p = 0.01$). Eggs served at the meal were not available for culture; other eggs from the same distributor were culture-negative for *Salmonella*. The eggs had been cracked and stored in tall 2-gallon containers in a walk-in refrigerator the evening before the breakfast. They were then cooked in batches in a steamer in the morning. Several attendees commented that the eggs seemed "runny."

Of the staff who worked at the breakfast, three reported illness compatible with salmonellosis with onset during the same period as the conventioners, and all three had eaten the eggs. *S. heidelberg* was isolated from the stools of two staff members who did not handle food but had eaten the eggs.

Reported by P. Weisse, E. Libbey, MD, St. Vincent's Hospital, Santa Fe, L. Nims, MS, P. Gutierrez, MS, New Mexico Scientific Laboratory Div., T. Madrid, MPA, N. Weber, MS, C. Voorhees, V. Crocco, C. Hules, S. Hill, Environmental Improvement Div., T. M. Ray, R. Gurule, F. Ortiz, District II Health Office, M. Eidson, DVM, CM Sewell, DrPH, S. Castle, MPH, P. Hayes, Office of Epidemiology, H. F. Hull, MD, State Epidemiologist, New Mexico Health and Environment Dept.; Div. of Field Svcs., Epidemiology Program Office, CDC.

Editorial Note: In the 1960s, eggs were responsible for a large proportion of salmonellosis outbreaks. With improvements in egg processing and quality control, egg-related outbreaks decreased dramatically in the 1970s (1). However, as this outbreak illustrates, egg-related illness remains an important public health concern. Pathogens may proliferate in eggs or in other food refrigerated in large containers, since the center of the container may be inadequately cooled (2). In this outbreak, the fact that many well attendees also ate eggs suggests that only some egg containers were contaminated, that only some eggs were cooked sufficiently to kill the bacteria, or that susceptibility to infection may have varied among the attendees.

For the 10-year period 1973-1982, 11 outbreaks of salmonellosis due to eggs were reported to CDC's Foodborne Disease Surveillance System. Of the 307 ill people in these outbreaks, 45 (15%) were hospitalized, and nine (3%) died (3). *S. heidelberg* has been frequently associated with poultry, accounting for 29% of *Salmonella* isolates from poultry submitted to the U.S. Department of Agriculture in 1982 (4).

References

1. Cohen ML, Blake PA. Trends in foodborne salmonellosis outbreaks: 1963-1975. *J Food Protection* 1977;40:798-800.
2. Bryan FL. Foodborne diseases in the United States associated with meat and poultry. *J Food Protection* 1980;43:140-50.
3. CDC. Unpublished data.
4. CDC. 1982 *Salmonella* surveillance. Atlanta, Georgia: Centers for Disease Control.

Current Trends

Update: Influenza Activity — United States — and Influenza Type B Virus Drift

Influenza Activity in the United States. For the week ending February 7, 1986, 21 states and the District of Columbia reported widespread outbreaks of influenza-like illness, and 14 states reported regional outbreaks. Tallies of patients with influenza-like illnesses seen by the network of family physicians* nationwide continued to increase from an average of 9.1 for the reporting week ending January 22, to an average of 10.5 for the week ending January 29 (Figure 1). During the influenza epidemics of the past two winters, this surveillance system indicated maximum values of between 11 and 12 cases per week.

Type B influenza viruses represent more than 75% of isolates reported from collaborating diagnostic laboratories where outbreaks are occurring; the remaining isolates are type A(H3N2). Three states reported their first isolates for the season: Indiana and Maryland—type B; and Massachusetts—types B and A(H3N2). Twenty states have now reported both types B and A(H3N2) viruses. The percentage of pneumonia and influenza deaths reported from the 121 U.S. cities for the week ending February 7 was 5.8%, the same percentage reported for the preceding week (Figure 1).

Antigenic Drift in Circulating Type B Influenza Strains. Preliminary characterization of type B viruses isolated in the United States this season indicates that B/Georgia/1/86 and B/Ann Arbor/1/86 exhibit some antigenic drift from B/USSR/100/83, the type B virus component of the currently available influenza vaccine. Among 25 persons (12 adults and 13 high-risk children) known to respond to one dose of 1985-1986 vaccine, the serum antibody titer to type B/USSR/100/83 influenza virus increased to a value of 1:40 or greater for 92% of the group (Table 3). In contrast, 28% of those responding to the vaccine reached the 1:40 or greater antibody titer to the B/Georgia/1/86 or B/Ann Arbor/1/86 virus strains. Similar patterns were seen at the other titer levels.

Reported by State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

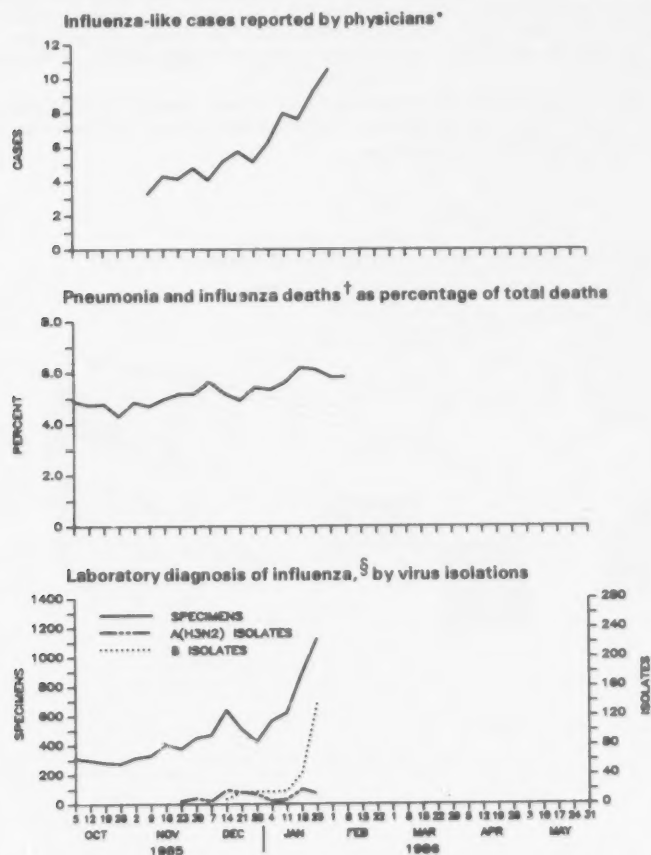
Editorial Note: No absolute level of serum antibody from influenza vaccination has been identified that can guarantee complete protection against influenza infection, although titers higher than 1:20 have been generally associated with significantly (up to about 70%) decreased rates of infection or illness. The above analysis demonstrates the existence of antigenic drift, using sera from a selected subgroup of vaccinees known to respond to the influenza B vaccine component. These data cannot be accurately extrapolated to predict vaccine efficacy rates, although protection afforded by the 1985-1986 vaccine used in programs during late 1985 will probably be lower than if the type B component of the vaccine more closely represented current isolates. Recent laboratory data indicate a close antigenic similarity between the type A(H3N2) virus strains now circulating and the A/Philippines/2/82 component of the 1985-1986 vaccine.

*Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Influenza — Continued

If each season's vaccine is to be available for use by late summer/early fall, production (and, therefore, strain selection) must begin by February. In past epidemics, for example, influenza B outbreaks often occurred toward the end of the influenza season (March/April), rather than during the January/February peak months; thus, it has not been possible to examine influenza isolates from these late outbreaks in time for vaccine formulation decisions.

FIGURE 1. Indicators of influenza activity, by week — United States, 1985-1986



*Reported to CDC by approximately 125 physician members of the American Academy of Family Physicians. A case was defined as a patient with fever 37.8 C (100 F) or greater and at least cough or sore throat.

†Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths where pneumonia is listed as a primary or underlying cause or where influenza is listed on the death certificate.

§Reported to CDC by WHO Collaborating Laboratories (including military sources).

Influenza — Continued

TABLE 3. Hemagglutination-inhibition serum antibody response to influenza vaccine*

Antigen [§]	Cumulative percent with postvaccine titer [†]				Geometric mean titer	
	≥ 1:20	≥ 1:40	≥ 1:80	≥ 1:160	Prevaccine	Postvaccine
B/USSR/100/83	100	92	64	48	< 1:10	1:94
B/Georgia/1/86	52	28	12	4	< 1:10	1:16
B/Ann Arbor/1/86	48	28	12	4	< 1:10	1:15

*Twelve adults and 13 high-risk children (mean age 6.9 years) received one dose of trivalent vaccine issued for use in 1985-1986 which included B/USSR/100/83 as the type B component. The results shown were obtained for individuals, who in prior testing of a larger group, all responded to the B/USSR/100/83 antigen.

[†]The percentage of volunteers with prevaccine titers of 1:10 was 12% with B/USSR/100/83, 8% with B/Georgia/1/86, and 4% with B/Ann Arbor/1/86. All other prevaccine titers were lower than 1:10.

[§]Whole-virus antigen was used in all three cases.

FIGURE 1. Reported measles cases — United States, weeks 2-5, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21041 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **
**



MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

97 Premature Mortality due to Congenital Anomalies

99 Measles — Arizona

107 Update: Influenza Activity — United States

MAY 6 1986

Premature Mortality due to Congenital Anomalies

In 1984, congenital anomalies were the fifth leading cause of years of potential life lost before age 65 (YPLL). They accounted for 684,000 YPLL, or about 6% of all YPLL (Table V, page 105).

Presented below are data on YPLL attributable to selected types of congenital anomalies by race (white, all other). Detailed mortality computer tapes available from the National Center for Health Statistics were used. The latest year for which tapes are available is 1982. Because of the year-to-year variation in YPLL (7), yearly average YPLL is presented for 1980-1982. To show changes over time, the 1980-1982 data were compared with 1970-1972 data.

In 1980-1982, an average yearly total of 732,549 YPLL was attributed to congenital anomalies, compared with 868,679 in 1970-1972 (Table 1), a decrease of 15.7%. For whites, the decrease was 19.0%, but for other races, YPLL increased 2.3%. In 1980-1982, 80% of YPLL due to congenital anomalies is derived from infant deaths (under 1 year of age); in 1970-1972, the figure was 78%. Compared with 1970-1972, the yearly average number of births was 3.6% higher in 1980-1982—1.0% higher for whites and 15.7% for other races. Since most YPLL due to congenital anomalies is derived from infant deaths and because the average yearly number of births was higher in 1980-1982 than in 1970-1972, particularly for other races, the changes in YPLL give a somewhat misleading picture of the impact of congenital anomalies on premature mortality. Adjusted for the change in average numbers of yearly births, YPLL decreased 18.6% overall from 1970-1972 to 1980-1982—19.8% for whites and 11.5% for other races.

Congenital anomalies of the cardiovascular system were the leading cause of premature mortality, accounting for 44.7% of YPLL due to congenital anomalies in 1980-1982 and 48.1% in 1970-1972 (Table 1); there was relatively little difference between the percentages for whites and those for other races. Nervous-system defects accounted for 17.5% of YPLL due to congenital anomalies in 1980-1982, a substantial decrease from the 1970-1972 percentage of 23.1. In 1980-1982, 7.4% of YPLL due to congenital anomalies was attributed to chromosomal anomalies, compared with 3.5% in 1970-1972. An increase in the number of YPLL from 1970-1972 to 1980-1982 was also seen for congenital anomalies of the respiratory system. The number of YPLL attributed to congenital anomalies of the digestive system decreased substantially from 1970-1972 to 1980-1982.

Reported by Birth Defects and Genetic Diseases Br; Div of Birth Defects and Developmental Disabilities, Center for Environmental Health, CDC.

Editorial Note: As infant mortality due to causes other than congenital anomalies has been reduced, congenital anomalies have become the leading cause of infant mortality and are the fifth leading cause of YPLL. Nevertheless, it appears that YPLL due to congenital anomalies

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

READER
FICHE

best copy available

HE 20.7009:

Congenital Anomalies — Continued

has decreased over the past decade, despite an increase in the number of births. Much of this decline may be attributed to improvements in the care of infants born with congenital anomalies, resulting in an increased survival rate. The decline cannot be attributed to an overall decline in the incidence rate of anomalies. According to CDC's birth defects surveillance data, the rates of occurrence of most defects have remained stable over the past decade (2) with a few notable exceptions. The rates of anencephaly and spina bifida have decreased substantially, which may account for some of the decrease in YPLL due to nervous-system anomalies, and the reported rate of some types of heart defects has increased.

Although new improvements in the care of affected individuals may further reduce YPLL due to congenital anomalies, the ultimate goal is reduction by primary prevention of congenital anomalies. Primary prevention will require the discovery of the causes of congenital anomalies, which are known to operate at the time of embryogenesis and organogenesis during the first trimester of pregnancy. Primary prevention is important, since many who now survive infancy with congenital anomalies face a lifetime of debilitating morbidity.

Even though congenital anomalies are among the leading causes of premature mortality, the YPLL statistics understate their true impact. One reason is that anomalies in infants who die shortly after birth may not be diagnosed and, thus, the infants' deaths may not be attributed to congenital anomalies. Another reason for understatement is that the YPLL statistics are based only on liveborn infants. A substantial number of fetuses with anomalies, however, die in utero.

The comparison of 1970-1972 data with 1980-1982 data may be clouded to some extent by changes in diagnostic acumen and cause of death attribution and in mortality coding. The 1970-1972 data were coded for cause of death by the Eighth Revision, International Classification of Diseases (ICD-8), and the 1980-1982 data were coded by the 9th Revision (ICD-9). For some categories of anomalies, code differences are very minor, but for others, ICD-9 is more detailed. For example, the coding available for chromosomal anomalies is more extensive in ICD-9. The YPLL for chromosomal anomalies was about twofold higher in 1980-1982 than in 1970-1972. Since the incidence of the common chromosomal anomalies

TABLE 1. Estimated years of potential life lost before age 65 (YPLL), per year, due to congenital anomalies, by race — United States, 1970-1972 and 1980-1982*

Cause of mortality (8th, 9th Revision ICD)	Yearly average YPLL					
	1970-1972			1980-1982		
	White	Other	Total	White	Other	Total
All congenital anomalies (740-759; 740-759)	732,594	136,086	868,680	593,366	139,181	732,549
Nervous system (740-743; 740-742)	177,037	23,559	200,596	106,948	21,230	128,178
Cardiovascular system (746-747; 745-747)	347,918	70,216	418,134	262,205	65,438	327,643
Respiratory system (748; 748)	24,930	5,659	30,589	37,739	10,387	48,126
Digestive system (749-751; 749-751)	41,844	10,539	52,383	16,048	5,167	21,215
Urinary system (753; 753)	28,409	4,569	32,978	28,204	5,255	33,459
Chromosomal (759.3-759.5; 758)	25,026	5,226	30,252	44,138	10,025	54,164
All other (Residual codes)	87,430	16,318	103,748	98,084	21,680	119,764

*1970-1972 data coded according to Eighth Revision, ICD. Adapted; 1980-1982 data coded by ICD, 9th Revision.

Congenital Anomalies — Continued

lies seems to have remained relatively stable over the past decade, and since survival has been stable or has improved, the doubling of YPLL attributed to chromosomal anomalies is likely to result from better diagnosis and cause of death attribution and/or coding.

References

1. CDC. Changes in premature mortality—United States, 1983-1984. *MMWR* 1986;35:29-31.
2. CDC. Temporal trends in the incidence of malformation in the United States, selected years, 1970-71, 1982-83. *MMWR: CDC Surveillance Summaries*, 1985;34 (No. 2SS):1SS-3SS.

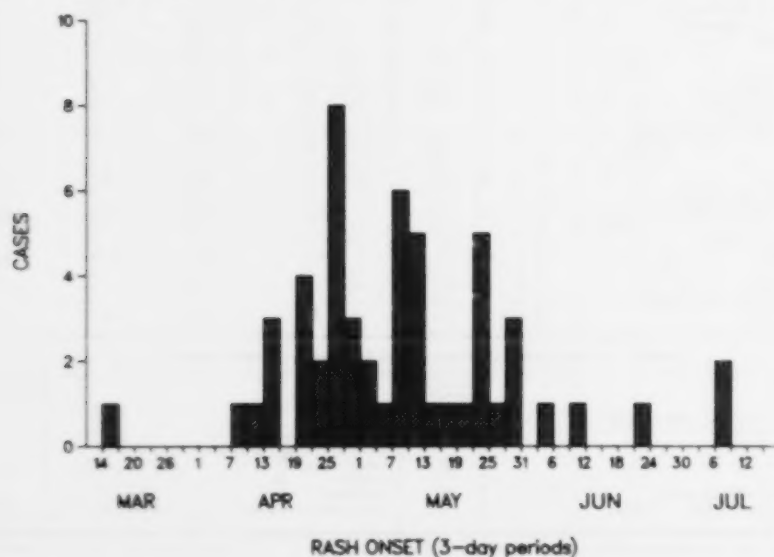
Measles — Arizona

From March 14, to July 11, 1985, 54 cases of measles were reported from Maricopa County, Arizona (Phoenix and surrounding area), to the Arizona Department of Health Services. Twenty-five (46.3%) cases were serologically confirmed.

The outbreak, which spread from a large school-based outbreak in neighboring Pima County (Tucson and surrounding area) began February 19. Two separate introductions of measles into Maricopa County apparently occurred. The first patient, a 25-year-old elementary school teacher, had onset of rash March 11 (Figure 1). The source of her infection was a Pima County student to whom she had been exposed while on a bus trip to a religious event. There was no known spread of measles from this patient. The second introduction of measles into Maricopa County involved five patients with rash onset from April 8 to April 15. Three of these patients acquired measles from a Pima County student at a swim meet in Maricopa County; one patient was in Tucson during all her probable exposure period; and the fifth had no known source.

Sixteen (29.6%) of the 54 patients were Hispanic, and 38 (70.4%) were white non-Hispanic. Sixteen (29.6%) patients were under 16 months of age; 27 (50.0%) were preschool-aged (0-4 years old); and 19 (35.2%) were school-aged (5-19 years old).

FIGURE 1. Reported measles cases, by date of rash onset — Maricopa County, Arizona, March 14-July 8, 1985



Measles — Continued

The overall attack rate in Maricopa County was 3.6 cases per 100,000 population. The highest reported attack rates were in the southwestern and western portions of the county, which are generally rural and where residents are of lower socioeconomic status. The highest attack rate occurred in the Buckeye community (378.6 cases/100,000 population), which is approximately 20 miles southwest of Phoenix. Race-specific attack rates were 8.0 cases/100,000 Hispanics and 3.1 cases/100,000 white non-Hispanics. Age-specific attack rates were calculated for the age groups for which county population data were available and ranged from a high of 22.2/100,000 children 0-5 years of age to 2.9/100,000 persons 20-29 years of age.

Sixteen (29.6%) patients had diarrhea; five (9.3%) developed otitis media; and two (3.7%) acquired pneumonia. One patient, a 19-year-old pregnant female, developed premature onset of labor and delivered an infant at 32 weeks' gestation. Eight (14.8%) patients were hospitalized. There were no measles-associated fatalities.

The probable setting or source of transmission was known for 34 (63.0%) of the patients: household/family contact—20 (58.8%); neighborhood—six (17.6%); school/school-related activity—six (17.6%); and medical facility—two (5.9%). Of 17 preschool-aged patients for whom sources were known, six (35.3%) acquired disease from another preschool-aged individual.

(Continued on page 105)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	7th Week Ending			Cumulative, 7th Week Ending		
	Feb. 15, 1986	Feb. 16, 1985	Median 1981-1985	Feb. 15, 1986	Feb. 16, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	176	178	N	1,582	786	N
Aseptic meningitis	58	65	60	536	473	575
Encephalitis: Primary (arthropod-borne & unsp.)	11	16	12	100	100	104
Post-infectious	2	3	1	8	16	10
Gonorrhea: Civilian	12,385	14,833	15,664	102,248	104,315	124,487
Military	309	445	445	1,822	2,133	3,386
Hepatitis: Type A	220	380	380	2,753	2,614	2,784
Type B	315	479	381	2,776	3,014	2,862
Non A, Non B	40	73	N	333	485	N
Unspecified	69	98	103	636	562	879
Legionellosis	6	7	N	69	89	N
Leprosy	1	18	3	33	33	30
Malaria	6	23	12	75	83	83
Measles: Total*	18	18	18	111	85	85
Indigenous	18	16	N	105	52	N
Imported	-	2	N	6	33	N
Meningococcal infections: Total	47	65	65	389	361	413
Civilian	47	65	65	388	361	408
Military	-	-	-	1	-	1
Mumps	45	97	76	280	392	523
Pertussis	49	26	26	240	153	145
Rubella (German measles)	9	3	17	44	26	102
Syphilis (Primary & Secondary): Civilian	365	464	598	2,857	3,265	3,992
Military	1	6	6	22	26	52
Toxic Shock syndrome	1	8	N	31	48	N
Tuberculosis	316	346	415	2,030	2,078	2,583
Tularemia	2	1	1	11	16	12
Typhoid fever	1	13	7	24	33	44
Typhus fever, tick-borne (RMSF)	1	1	-	7	4	7
Rabies, animal	37	91	74	470	512	546

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Hawaii 1)	7
Botulism: Foodborne (Mich. 1, Wash. 1)	2	Plague	-
Infant	8	Polio-myelitis, Paralytic	-
Other	-	Portiaccosis (N.Y. 1, Upstate N.Y. 1)	4
Brucellosis	5	Rabies, human	-
Cholera	-	Tetanus	4
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (N.H. 1)	1
Diphtheria	-		

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
February 15, 1986 and February 16, 1985 (7th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
					Cum 1986	1986					Cum 1986	Cum 1986
UNITED STATES	1,582	58	100	8	102,248	104,315	220	315	40	69	8	33
NEW ENGLAND	90	4	7	-	2,514	3,197	5	30	1	2	1	1
Maine	3	-	-	-	119	151	-	2	-	-	-	-
N.H.	3	-	2	-	69	74	1	1	-	-	-	-
Vt.	1	-	-	-	43	34	-	1	-	-	-	-
Mass	57	3	2	-	1,123	1,095	4	21	1	2	1	1
R.I.	8	-	-	-	230	250	-	4	-	-	-	-
Conn	18	1	1	-	930	1,593	-	1	-	-	-	-
MID ATLANTIC	553	9	18	-	18,187	15,890	23	45	2	24	-	4
Upstate N.Y.	50	4	6	-	2,111	1,929	12	23	1	2	-	-
N.Y. City	360	2	7	-	11,030	7,378	-	-	-	21	-	4
N.J.	92	-	2	-	1,876	2,697	9	19	1	-	-	-
Pa	51	3	3	-	3,170	3,886	2	3	-	1	-	-
E.N. CENTRAL	79	18	19	1	14,511	14,505	10	47	10	5	2	1
Ohio	27	1	6	1	4,357	3,917	7	10	1	2	2	-
Ind	15	4	-	-	2,440	1,230	-	2	-	3	-	-
Ill	17	4	1	-	1,962	4,289	2	9	5	-	-	-
Mich	20	7	12	-	4,912	4,428	1	26	4	-	-	1
Wis	-	-	-	-	840	641	-	-	-	-	-	-
W.N. CENTRAL	37	5	-	1	5,031	5,766	15	11	1	-	-	3
Minn	17	3	-	-	753	803	1	4	1	-	-	3
Iowa	2	-	-	-	526	620	2	-	-	-	-	-
Mo	10	-	-	-	2,477	2,675	1	6	-	-	-	-
N.Dak	2	-	-	-	50	34	-	-	-	-	-	-
S.Dak	1	2	-	-	84	110	11	-	-	-	-	-
Nebr	3	-	-	-	278	506	-	1	-	-	-	-
Kans	2	-	-	1	863	1,018	-	-	-	-	-	-
S. ATLANTIC	210	18	16	6	22,074	21,433	20	70	10	7	2	-
Del	5	1	2	-	445	462	1	-	1	-	-	-
Md	22	1	5	-	2,818	2,995	-	5	-	1	-	-
D.C.	20	-	-	-	2,329	1,844	-	2	-	-	-	-
Va	26	2	6	1	2,439	2,448	2	5	1	2	-	-
W.Va.	-	-	-	-	291	319	1	-	-	-	-	-
N.C.	15	-	2	-	3,725	4,205	3	13	4	-	-	-
S.C.	11	3	-	-	2,770	2,831	-	11	-	-	-	-
Ge.	16	4	-	-	-	-	3	9	-	2	-	-
Fla	95	7	1	5	7,257	6,329	10	25	4	2	2	-
E.S. CENTRAL	24	3	11	-	9,333	9,082	-	17	3	1	-	-
Ky	5	-	5	-	1,072	972	-	4	-	1	-	-
Tenn	12	1	1	-	3,785	3,642	-	10	2	-	-	-
Ala	2	-	5	-	2,500	2,744	-	-	-	-	-	-
Miss	5	2	-	-	1,976	1,724	-	3	1	-	-	-
W.S. CENTRAL	154	3	4	-	13,501	15,445	54	29	3	20	-	-
Ark	5	-	-	-	1,265	1,504	1	-	1	1	-	-
La	25	-	-	-	2,444	3,334	-	-	-	-	-	-
Okla	2	-	-	-	1,576	1,581	4	2	-	-	-	-
Tex	122	3	4	-	8,216	9,026	49	27	2	19	-	-
MOUNTAIN	24	-	5	-	3,177	3,537	45	35	6	9	1	2
Mont	1	-	-	-	92	104	1	2	-	-	-	-
Idaho	1	-	-	-	102	119	-	1	-	-	-	-
Wyo	2	-	2	-	72	104	2	-	-	-	-	-
Colo	2	-	-	-	871	1,070	7	4	2	9	1	-
N.Mex	4	-	-	-	389	444	9	1	-	1	-	-
Ariz	6	-	2	-	844	998	15	15	4	-	-	1
Utah	3	-	1	-	155	161	9	2	-	-	-	-
Nev	6	-	-	-	652	537	2	9	-	-	-	1
PACIFIC	411	-	20	-	13,920	15,460	48	21	4	1	-	22
Wash	21	-	1	-	1,190	1,155	3	13	1	1	-	1
Oreg	10	-	-	-	598	921	43	12	3	-	-	-
Calif	372	U	17	-	11,453	12,761	U	U	U	U	U	21
Alaska	4	-	2	-	518	386	-	6	-	-	-	-
Hawaii	4	-	-	-	161	237	2	-	-	-	-	-
Guam	-	U	-	-	-	15	U	U	U	U	U	-
P.R.	15	U	-	-	241	594	U	U	U	U	U	-
V.I.	-	U	-	-	22	52	U	U	U	U	U	-
Pac. Trust Terr	-	U	-	-	-	72	U	U	U	U	U	-
Amer. Samoa	-	U	-	-	-	-	U	U	U	U	U	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 15, 1986 and February 16, 1985 (7th Week)

Reporting Area	Malaria		Measles (Rubeola)				Meningococcal Infections		Mumps		Pertussis			Rubella		
			Indigenous		Imported *											
	Cum 1985	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	1986
UNITED STATES	75	18	105	-	8	85	389	45	280	49	240	153	9	44	26	
NEW ENGLAND	1	-	-	-	-	-	32	-	6	1	16	3	-	-	2	
Maine	-	-	-	-	-	-	5	-	-	-	1	-	-	-	-	
N.H.	-	-	-	-	-	-	1	-	3	1	7	-	-	-	1	
Vt.	-	-	-	-	-	-	4	-	-	-	1	1	-	-	-	
Mass.	1	-	-	-	-	-	8	-	-	-	4	1	-	-	1	
R.I.	-	-	-	-	-	-	2	-	3	-	1	-	-	-	-	
Conn.	-	-	-	-	-	-	12	-	-	-	2	-	-	-	-	
MID ATLANTIC	11	-	11	-	2	2	60	3	19	11	40	24	6	15	6	
Upstate N.Y.	-	-	-	-	2	1	18	1	7	11	31	11	6	12	1	
N.Y. City	5	-	11	-	-	1	8	-	-	-	-	5	-	3	4	
N.J.	2	-	-	-	-	-	6	2	7	-	-	-	-	-	1	
Pa.	4	-	-	-	-	-	28	-	5	-	9	8	-	-	-	
E.N. CENTRAL	2	15	16	-	-	27	44	19	112	13	55	40	-	1	3	
Ohio	1	-	-	-	-	-	19	1	32	4	36	8	-	-	-	
Ind.	-	-	-	-	-	-	6	5	7	6	9	11	-	-	-	
Ill.	-	15	16	-	-	3	10	10	46	1	2	5	-	-	-	
Mich.	1	-	-	-	-	1	9	3	27	2	6	2	-	-	3	
Wis.	-	-	-	-	-	23	-	-	-	-	2	14	-	1	-	
W.N. CENTRAL	2	-	42	-	-	-	17	2	14	-	14	15	-	2	4	
Minn.	1	-	-	-	-	-	2	-	-	-	7	5	-	-	-	
Iowa	1	-	-	-	-	-	4	1	5	-	2	1	-	-	-	
Mo.	-	-	-	-	-	-	9	1	3	-	1	3	-	1	-	
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Nebr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kans.	-	-	42	-	-	-	2	-	6	-	3	3	-	1	4	
S. ATLANTIC	14	-	1	-	1	3	67	6	37	13	43	21	1	4	1	
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Md.	3	-	-	-	-	1	6	1	3	6	10	4	-	-	-	
D.C.	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	
Va.	5	-	-	-	-	-	5	-	5	1	5	1	-	-	-	
W. Va.	-	-	-	-	-	-	1	1	15	-	-	-	-	-	-	
N.C.	2	-	-	-	-	-	9	-	3	-	6	5	-	-	-	
S.C.	-	-	-	-	-	-	11	-	2	-	1	-	-	-	-	
Ga.	2	-	-	-	-	-	8	1	2	6	17	3	-	-	1	
Fla.	2	-	1	-	1	1	26	3	7	-	4	6	1	4	-	
E.S. CENTRAL	2	-	-	-	-	-	34	1	4	2	8	3	-	1	1	
Ky.	2	-	-	-	-	-	19	-	2	-	1	1	-	1	1	
Tenn.	-	-	-	-	-	-	8	-	1	1	2	1	-	-	-	
Ala.	-	-	-	-	-	-	7	1	1	1	5	1	-	-	-	
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
W.S. CENTRAL	-	-	-	-	-	-	18	8	23	-	7	11	2	6	1	
Ark.	-	-	-	-	-	-	-	-	2	-	-	6	-	-	1	
La.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
Okla.	-	-	-	-	-	-	4	N	N	-	7	5	-	-	-	
Tex.	-	-	-	-	-	-	13	8	21	-	-	-	2	6	-	
MOUNTAIN	4	-	8	-	2	36	23	5	39	4	29	4	-	-	-	
Mont.	-	-	-	-	-	36	3	-	1	-	-	-	-	-	-	
Idaho	-	-	-	-	-	-	1	1	1	-	7	-	-	-	-	
Wy.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Colo.	1	-	-	-	-	-	3	-	3	2	6	2	-	-	-	
N. Mex.	-	-	8	-	2	-	3	N	N	-	5	1	-	-	-	
Ariz.	2	-	-	-	-	-	7	4	31	2	10	1	-	-	-	
Utah	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	
Nev.	1	-	-	-	-	-	2	-	2	-	-	-	-	-	-	
PACIFIC	39	3	27	-	1	17	94	1	26	5	28	32	-	15	8	
Wash.	5	3	9	-	-	1	14	1	1	4	13	2	-	-	-	
Oreg.	4	-	-	-	-	-	10	N	N	-	1	4	-	-	-	
Calif.	30	U	17	U	1	14	66	U	20	U	11	24	U	15	8	
Alaska	-	-	-	-	-	-	4	-	2	-	1	-	-	-	-	
Hawaii	-	-	1	-	-	2	-	-	3	1	2	2	-	-	-	
Guam	-	U	-	U	-	8	-	U	-	U	-	-	U	-	-	
P.R.	1	U	-	U	-	20	-	U	8	U	2	1	U	-	4	
V.I.	-	U	-	U	-	5	-	U	2	U	-	-	U	-	-	
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-	
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-	

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable * International † Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 15, 1986 and February 16, 1985 (7th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	2,857	3,265	1	2,030	2,078	11	24	7	470
NEW ENGLAND	82	71	-	68	86	-	1	1	-
Maine	3	2	-	10	2	-	-	-	-
N.H.	3	2	-	2	6	-	-	-	-
Vt.	4	-	-	3	-	-	-	-	-
Mass.	44	38	-	24	40	-	1	1	-
R.I.	5	1	-	4	13	-	-	-	-
Conn.	23	28	-	25	16	-	-	-	-
MID ATLANTIC	406	451	-	406	445	-	2	-	64
Upstate N.Y.	23	23	-	72	44	-	-	-	9
N.Y. City	262	297	-	193	258	-	2	-	-
N.J.	100	77	-	72	23	-	-	-	-
Pa.	21	54	-	69	120	-	-	-	55
E.N. CENTRAL	62	147	1	323	260	1	2	-	7
Ohio	8	12	1	48	52	1	-	-	-
Ind.	24	10	-	36	33	-	-	-	1
Ill.	9	83	-	156	112	-	-	-	-
Mich.	14	35	-	64	47	-	2	-	2
Wis.	7	7	-	19	16	-	-	-	4
W.N. CENTRAL	27	39	-	36	51	4	2	-	60
Minn.	6	14	-	6	6	-	1	-	-
Iowa	3	7	-	4	13	1	-	-	16
Mo.	15	10	-	22	18	3	1	-	5
N. Dak.	2	-	-	3	2	-	-	-	26
S. Dak.	-	1	-	-	2	-	-	-	13
Nebr.	-	1	-	-	3	-	-	-	-
Kans.	1	6	-	1	7	-	-	-	-
S. ATLANTIC	666	845	-	356	379	2	1	3	88
Del.	4	4	-	1	4	-	-	-	-
Md.	58	70	-	15	28	1	-	-	52
D.C.	50	41	-	19	22	-	-	-	-
Va.	69	44	-	20	18	-	-	-	12
W. Va.	3	-	-	15	13	-	-	-	2
N.C.	78	96	-	43	35	-	1	2	-
S.C.	110	111	-	66	51	-	-	1	2
Ge.	-	-	-	39	52	1	-	-	15
Fla.	294	479	-	138	156	-	-	-	5
E.S. CENTRAL	224	284	-	200	177	1	-	2	23
Ky.	13	11	-	60	43	1	-	1	4
Tenn.	94	73	-	45	42	-	-	-	11
Ala.	73	118	-	84	72	-	-	1	8
Miss.	44	82	-	11	20	-	-	-	-
W.S. CENTRAL	741	786	-	249	178	3	-	1	51
Ark.	29	40	-	28	7	3	-	-	7
La.	123	148	-	83	41	-	-	-	-
Okla.	25	26	-	23	24	-	-	-	5
Tex.	564	572	-	115	106	-	-	1	39
MOUNTAIN	87	108	-	36	33	-	1	-	114
Mont.	1	1	-	1	5	-	-	-	46
Idaho	1	2	-	2	1	-	-	-	-
Wy.	-	4	-	-	1	-	-	-	49
Colo.	29	27	-	-	-	-	-	-	-
N. Mex.	10	6	-	6	4	-	-	-	2
Ariz.	31	63	-	18	19	-	-	-	17
Utah	3	1	-	-	-	-	1	-	-
Nev.	12	4	-	9	3	-	-	-	-
PACIFIC	562	534	-	356	469	-	15	-	63
Wash.	16	20	-	27	13	-	2	-	-
Oreg.	17	19	-	16	12	-	-	-	-
Calif.	521	485	U	287	404	-	11	-	60
Alaska	-	-	-	5	18	-	-	-	3
Hawaii	8	10	-	26	22	-	2	-	-
Guam	-	2	U	-	4	-	-	-	-
P.R.	83	135	U	36	40	-	-	-	4
V.I.	-	-	U	-	1	-	-	-	-
Pac. Trust Terr.	-	9	U	-	5	-	-	-	-
Amer. Samoa	-	-	U	-	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
February 15, 1986 (7th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	654	468	121	41	15	9	75	S ATLANTIC	1,658	1,065	357	138	46	48	85
Boston, Mass.	157	102	35	13	2	5	27	Atlanta, Ga.	163	104	37	19	-	3	9
Bridgeport, Conn.	33	23	6	2	2	-	4	Baltimore, Md.	371	225	90	29	16	11	9
Cambridge, Mass.	29	26	2	1	-	-	4	Charlotte, N.C.	79	46	23	5	-	5	5
Fall River, Mass.	40	29	7	3	1	-	2	Jacksonville, Fla.	160	103	33	13	7	4	10
Hartford, Conn.	56	36	15	2	2	1	5	Miami, Fla.	143	90	25	20	6	2	6
Lowell, Mass.	32	23	8	1	-	-	1	Norfolk, Va.	73	45	19	3	3	3	5
Lynn, Mass.	20	15	4	1	-	-	1	Richmond, Va.	84	54	25	3	-	2	9
New Bedford, Mass.	25	18	5	1	-	-	1	Savannah, Ga.	43	24	9	4	1	5	4
New Haven, Conn.	42	27	11	4	-	-	3	St. Petersburg, Fla.	135	105	14	7	3	6	12
Providence, R.I.	69	56	9	3	-	-	5	Tampa, Fla.	79	53	14	6	1	2	4
Somerville, Mass.	6	4	-	2	-	-	-	Washington, D.C.	290	191	58	26	9	6	12
Springfield, Mass.	53	38	8	3	3	1	13	Wilmington, Del.	38	25	10	3	-	-	-
Waterbury, Conn.	30	23	3	2	2	-	5								
Worcester, Mass.	62	48	8	3	3	-	5								
MID ATLANTIC	3,035	2,493	293	119	60	70	170	E S CENTRAL	860	551	179	55	25	50	61
Albany, N.Y.	52	35	8	1	1	7	1	Birmingham, Ala.	126	77	30	9	-	3	7
Allentown, Pa.	14	11	3	-	-	-	-	Chattanooga, Tenn.	75	53	13	6	1	2	7
Buffalo, N.Y.	146	108	29	2	3	4	9	Knoxville, Tenn.	98	66	23	7	1	1	6
Camden, N.J.	46	30	7	5	3	1	2	Louisville, Ky.	114	84	23	6	-	1	15
Elizabeth, N.J.	34	26	6	1	1	-	2	Memphis, Tenn.	195	107	34	16	6	32	11
Erie, Pa.	21	18	2	1	-	-	2	Mobile, Ala.	88	55	19	4	6	4	11
Jersey City, N.J.	40	28	7	3	-	2	1	Montgomery, Ala.	55	40	8	2	2	3	2
N.Y. City, N.Y.	1,587	1,497	10	20	30	30	74	Nashville, Tenn.	109	69	29	5	6	-	5
Newark, N.J.	55	31	12	9	1	2	6								
Peterborough, N.J.	34	15	11	6	1	1	6	W S CENTRAL	1,325	885	260	86	45	49	59
Philadelphia, Pa.	419	286	99	34	9	11	18	Austin, Tex.	47	31	10	4	-	2	4
Pittsburgh, Pa.	104	72	21	8	1	2	6	Baton Rouge, La.	31	14	9	7	-	1	1
Reading, Pa.	44	29	12	2	-	1	4	Corpus Christi, Tex.	49	32	8	2	3	4	4
Rochester, N.Y.	157	113	26	10	1	7	16	Dallas, Tex.	210	120	52	24	6	8	9
Schenectady, N.Y.	39	30	6	1	2	-	4	El Paso, Tex.	72	41	19	5	2	5	6
Scranton, Pa.	36	31	5	-	-	-	7	Fort Worth, Tex.	78	48	18	4	3	5	4
Syracuse, N.Y.	124	93	18	6	5	2	5	Houston, Tex.	300	270	5	5	10	10	6
Trenton, N.J.	30	22	1	5	2	-	1	Little Rock, Ark.	45	23	14	3	5	-	5
Utica, N.Y.	24	20	4	-	-	-	2	New Orleans, La.	135	81	33	11	5	5	-
Yonkers, N.Y.	29	18	6	5	-	-	4	San Antonio, Tex.	180	101	52	12	9	6	11
								Shreveport, La.	38	24	9	3	1	1	2
								Tulsa, Okla.	140	100	31	6	1	2	11
E N CENTRAL	2,385	1,726	374	120	65	99	131	MOUNTAIN	706	450	151	60	21	23	48
Akron, Ohio	81	59	15	2	2	3	4	Albuquerque, N.Mex.	107	66	22	10	5	4	10
Canton, Ohio	26	18	4	4	-	-	5	Colorado Springs, Colo.	35	25	6	1	3	-	6
Chicago, Ill.	553	462	11	26	16	37	16	Denver, Colo.	124	79	29	11	-	5	3
Cincinnati, Ohio	133	87	35	3	3	5	15	Las Vegas, Nev.	90	55	22	9	-	3	4
Cleveland, Ohio	184	117	32	15	8	12	4	Ogden, Utah	31	21	7	2	-	1	7
Columbus, Ohio	163	109	34	6	8	7	7	Phoenix, Ariz.	143	81	36	14	6	6	6
Dayton, Ohio	119	75	31	7	5	1	2	Pueblo, Colo.	15	13	2	-	-	-	2
Detroit, Mich.	242	151	53	19	7	12	12	Salt Lake City, Utah	47	24	10	6	3	4	1
Evansville, Ind.	57	44	9	2	1	1	4	Tucson, Ariz.	114	86	17	7	4	-	9
Fort Wayne, Ind.	53	41	10	2	-	1	3								
Gary, Ind.	13	8	4	-	-	-	1	PACIFIC	2,047	1,385	383	148	63	60	142
Grand Rapids, Mich.	59	42	9	6	1	1	9	Berkeley, Calif.	27	23	1	1	-	2	1
Indianapolis, Ind.	174	113	43	7	4	7	2	Fresno, Calif.	81	53	13	5	3	7	4
Madison, Wis.	51	36	5	4	3	3	11	Glendale, Calif.	43	35	3	4	-	1	2
Milwaukee, Wis.	157	125	25	3	4	-	4	Honolulu, Hawaii	77	50	20	2	3	2	5
Peoria, Ill.	58	42	6	3	1	4	7	Long Beach, Calif.	97	74	13	7	1	2	12
Rockford, Ill.	41	32	7	1	-	1	3	Los Angeles, Calif.	601	412	109	47	17	8	33
South Bend, Ind.	50	37	10	3	-	-	9	Oakland, Calif.	65	41	14	3	4	3	2
Toledo, Ohio	107	77	22	4	2	2	10	Pasadena, Calif.	43	30	9	2	2	-	2
Youngstown, Ohio	64	51	7	3	2	1	4	Portland, Ore.	114	85	16	4	4	5	4
W N CENTRAL	791	551	156	37	21	26	59	Sacramento, Calif.	165	112	30	11	6	6	18
Des Moines, Iowa	73	48	17	3	2	2	13	San Diego, Calif.	150	90	34	13	7	6	22
Duluth, Minn.	29	27	2	-	-	-	1	San Francisco, Calif.	184	117	34	26	4	3	5
Kansas City, Kans.	41	27	7	5	2	-	-	San Jose, Calif.	186	112	46	17	8	3	19
Kansas City, Mo.	123	91	24	4	2	2	7	Seattle, Wash.	112	75	26	4	3	4	4
Lincoln, Nebr.	41	31	10	-	-	-	5	Spokane, Wash.	59	43	10	2	1	3	10
Minneapolis, Minn.	85	53	19	6	2	5	4	Tacoma, Wash.	43	33	5	-	-	5	3
Omaha, Nebr.	104	69	23	3	5	4	10								
St. Louis, Mo.	159	114	28	7	4	6	10	TOTAL	13,461	9,574	2,274	804	361	434	830
St. Paul, Minn.	50	35	9	1	3	2	2								
Wichita, Kans.	86	56	17	8	-	5	7								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

‡ Data not available. Figures are estimates based on average of past 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES		
(Total)	11,761,000	866.7
Unintentional injuries‡ (E800-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E978)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity§ (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*Years of potential life lost before age 65 for persons dying in the year are derived from the number of deaths in each age category as reported by the National Center for Health Statistics, *Monthly Vital Statistics Report* (MVSRI), Vol. 33, No. 13, September 26, 1985, multiplied by the difference between age 65 years and the age at the midpoint of each category. As a measure of mortality, "Years of potential life lost" underestimate the importance of diseases that contribute to death without being the underlying cause of death.

†Cause-specific mortality rates as reported in the MVSRI are compiled from a 10% sample of all deaths.

‡Equivalent to accidents and adverse effects.

§Category derived from disorders relating to short gestation and respiratory distress syndrome.

Measles — Continued

Twenty-nine (53.7%) cases were considered preventable, according to the CDC classification.* Of the 25 patients with nonpreventable measles, 13 (52.0%) had histories of appropriate vaccination; 10 (40.0%) were under 16 months of age; and two (8.0%) were born before 1957. All 17 patients from 16 months through 4 years of age were unvaccinated (i.e., preventable cases). Measles was preventable in five (41.7%) of the 12 school-aged patients.

*A case is considered preventable if measles illness occurs in a U.S. citizen: (1) at least 16 months of age; (2) born after 1956; (3) lacking adequate evidence of immunity to measles (documented receipt of live measles vaccine on or after the first birthday and at least 2 weeks before onset of disease, or physician-diagnosed measles illness, or laboratory evidence of immunity); (4) without a medical contraindication to receiving vaccine; and (5) with no religious or philosophic exemption under state law.

Measles - Continued

Outbreak-control activities included intensified surveillance through publicity in the local press, improved case investigation, special vaccination clinics at various locations throughout the county, and exclusion of students who did not have adequate evidence of measles immunity in their school health records. Based on the schools' assessments of student immunization records, 7,098 (2.5%) of the 288,919 students enrolled in the county were excluded from school on May 8. By May 13, 6,280 (88.5%) of the 7,098 excluded students had provided documentation of measles immunity and were allowed to return to school.

To assess the accuracy of school immunization records, state and local health officials reviewed every tenth record in each of 48 schools in the county (20 high schools and 28 elementary schools) during the first week of exclusion. These schools had an overall enrollment of approximately 55,500. Of 5,302 records reviewed that had been reported to contain adequate evidence of measles immunity, 419 (7.9%) were inadequate according to the criteria of the Immunization Practices Advisory Committee.[†] To be considered complete, dates of measles vaccination needed to include at least the month and year of vaccination. The inadequacy rates were 2.2% (45/2,041) in elementary school records and 11.5% (374/3,261) in high school records. School-specific inadequate-record rates ranged from 0.0% to 9.5% in elementary schools (median 0.6%) and from 0.0% to 27.3% in high schools (median 8.2%). In 14 elementary schools and one high school, all records audited were found to be adequate.

Reported by J Swanson, D Campos-Outcalt, MD, R Harmon, MD, Maricopa County Div of Public Health, B Olson, SJ Englender, MD, LF Novick, MD, GG Caldwell, MD, State Epidemiologist, Arizona Dept of Health Svcs; Div of Field Svcs, Epidemiology Program Office, Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: In 1985, 241 measles cases were provisionally reported in Arizona, including 234 indigenous cases and seven out-of-state or international importations. Over 90% of these 241 cases occurred in the Pima County and Maricopa County outbreaks. The 241 Arizona cases represent 8.9% of the provisional total of 2,704 cases reported in the United States. The only states reporting more cases in 1985 were Texas (409 cases), Illinois (303), and California (269). In contrast to 1985, a total of only 26 cases was reported from Arizona during the 4-year period 1981-1984.

The three major components of the current measles elimination strategy are: (1) high immunization levels; (2) effective surveillance; and (3) aggressive outbreak control. The Maricopa County outbreak illustrates two important aspects of achieving and maintaining high immunization levels: age-appropriate vaccination and school immunization laws. Fifty percent of the cases in the Maricopa County outbreak occurred among preschool-aged children. By contrast, preschool-aged children accounted for 25.9% of all reported cases in the United States in the first 26 weeks of 1985 (1). This and other outbreaks (2-5) suggest that preschool-aged children can contribute substantially to ongoing transmission. The high proportion of preschool-aged children who were unvaccinated emphasizes the need to vaccinate children promptly at 15 months of age.

Fifty-four percent of cases in this outbreak were preventable. According to preliminary data for 1985, approximately 29% of all reported cases in the United States were preventable. The higher proportion of preventable cases in Maricopa County is primarily due to the fact that measles was preventable in all the preschool-aged patients above the recommended age for vaccination.

Reported school vaccination levels for Maricopa and Pima Counties were 97.2% and 95.5%, respectively. A review of school immunization records in Maricopa County revealed a relatively high proportion considered to be inadequate. Other studies have shown that inability to obtain provider verification of school immunization data is a risk factor for developing mea-

[†]Adequate evidence of measles immunity is: (1) receipt of live measles vaccine on or after the first birthday, (2) history of physician-diagnosed measles illness, or (3) laboratory evidence of immunity.

Measles — Continued

sles (6-7). These studies provide additional evidence that school immunization records may be inaccurate in some areas. The accuracy of school immunization records probably varies depending on the degree of enforcement of school immunization requirements.

Elementary school immunization records in Maricopa County were more accurate than high school records. Immunization records for high school and college students may be less accurate than those for younger students because of the greater time lapse since vaccination and because many of the older students may have enrolled in school before the vigorous enforcement of school immunization laws.

All 50 states and the District of Columbia have school immunization requirements for measles. As of September 1985, they applied to grades K-12 in 44 states (including Arizona) and the District of Columbia, grades K-5 in Idaho, and new entrants in the remaining four states (8). The Maricopa County outbreak illustrates the need for vigorous enforcement of these requirements to maintain accurate immunization records and high immunization levels in schools. Since the majority of preventable measles cases occurs among school-aged individuals (1), stronger enforcement of school immunization requirements will hasten the elimination of indigenous measles in the United States.

References

1. CDC. Measles — United States, first 26 weeks, 1985. MMWR 1986;35:1-4.
2. CDC. Measles — Texas. MMWR 1981;30:209-11.
3. CDC. Measles among children of migrant workers — Florida. MMWR 1983;32:471-2, 477-8.
4. CDC. Measles — Hawaii. MMWR 1984;33:702, 707-11.
5. CDC. Measles — Puerto Rico. MMWR 1985;34:169-72.
6. Hull HF, Montes JM, Hays PC, Lucero RL. Risk factors for measles vaccine failure among immunized students. Pediatrics 1985;76:518-23.
7. Wassilak SGF, Orenstein WA, Strickland PL, Butler CA, Bart KJ. Continuing measles transmission in students despite a school-based outbreak control program. Am J Epidemiol 1985;122:208-17.
8. CDC. State immunization requirements, 1985-1986 (unpublished).

Update: Influenza Activity — United States

Influenza outbreaks continue to be widely reported throughout the United States. For the week ending February 14, 1986, 19 states* and the District of Columbia reported widespread outbreaks of influenza-like illness, and 18 states† reported regional outbreaks. This is the second consecutive week with more states reporting outbreaks than for any week since January 1981. Preliminary tallies of patients with influenza-like illnesses seen by the network of family physicians‡ nationwide averaged 11.5 cases for the reporting week ending February 5, compared with the 10.8 average for the preceding week and the maximum 11-12 cases for the two preceding seasons.

The numbers of influenza viruses isolated by the collaborating diagnostic laboratories continued to increase, with 83% of the reports for the 2 most recent weeks represented by type B, and 17%, by type A(H3N2). Maine (type B virus) and Vermont (virus types A(H3N2) and B) reported their first influenza isolates of the season. Forty-three states have now reported type B virus isolates, 26 states, type A(H3N2) isolates, and 25 states, both types.

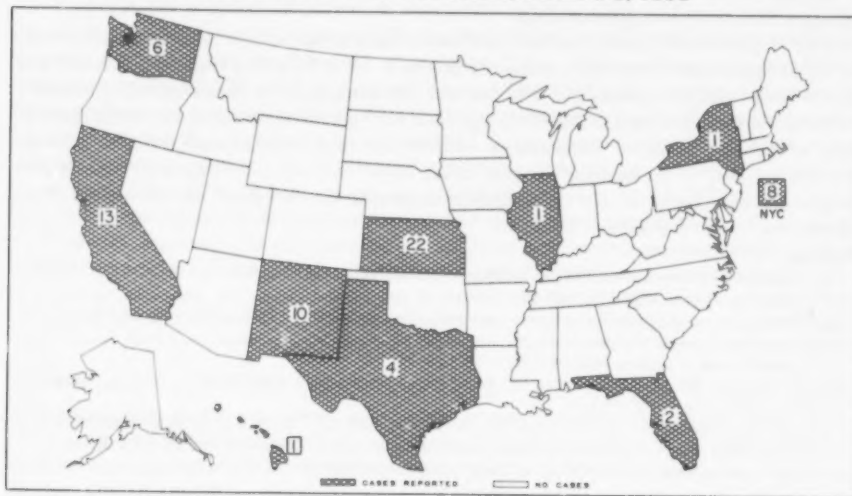
*Colorado, Georgia, Idaho, Iowa, Kansas, Louisiana, Montana, Nebraska, New Hampshire, New Jersey, North Carolina, Pennsylvania, South Carolina, South Dakota, Vermont, Virginia, Washington, Wisconsin, and Wyoming.

†Alabama, Arizona, California, Connecticut, Delaware, Illinois, Maine, Maryland, Michigan, Minnesota, Mississippi, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, Tennessee, and Texas.

‡Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Influenza — Continued

The percentage of pneumonia and influenza deaths reported from the 121 U.S. cities for the week ending February 14 was 6.2%, compared with the 5.8% for the preceding 2 weeks. Reported by State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

FIGURE 1. Reported measles cases — United States, weeks 3-6, 1986

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21042 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAROODN DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

*
*
*
*
*

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 109 Report of the Secretary's Task Force on Black and Minority Health
113 Leading Work-Related Diseases and Injuries—United States
123 Reported Contamination of Heparin Sodium with *Pseudomonas putida*
124 Update: Influenza Activity — United States

MAY 6 1986

Perspectives in Disease Prevention and Health Promotion
U.S. GOVT. PUBL. DEPOSITORY 376

Report of the Secretary's Task Force on Black and Minority Health

In January 1984, the secretary of the U.S. Department of Health and Human Services (DHHS) established the Task Force on Black and Minority Health in response to the national paradox of steady improvement in overall health, with substantial inequities in the health of U.S. minorities. DHHS released its *Report of the Secretary's Task Force on Black and Minority Health* on October 16, 1985. The report documents the disparity in key health indicators among certain groups of the U.S. population.

A comprehensive study was carried out to investigate the long-standing disparities between the health status of U.S. blacks, Hispanics, Asian/Pacific Islanders, and Native Americans compared to that of whites. To characterize the health problems of minority Americans, the Task Force reviewed existing health status information on minority and nonminority populations available in *Health, United States, 1983* and other supplementary data sources (1-10). National mortality data were analyzed for more than 40 disease categories for 1979-1981. "Excess deaths" were defined as the difference between the number of deaths observed in the minority populations and the number that would have been expected if the minority population had the same age- and sex-specific death rates as the nonminority population. This method quantified the number of deaths that would not have occurred had mortality rates for minorities equaled those of nonminorities.

For each of the major causes of death identified as priority areas, the Task Force formed a subcommittee to consider and report on the etiology; associated physiologic, cultural, and societal factors; means for improving treatment; and possible intervention strategies to prevent excess deaths in minority groups. The Task Force also developed other mortality indices (such as person-years of life lost, life expectancy, and relative risk of death by cause), as well as indices of morbidity and health status for minorities (such as prevalence rates of selected diseases, hospital admissions, physician visits, limitation of activity, and self-assessed health status). It also reviewed other factors pertaining to minority health, including demographic data, health education, health professionals, and health-care services and financing.

In discharging its responsibility, the Task Force engaged consultants from the various racial/ethnic groups and others to provide additional information and perform supplementary reviews of data. It also interacted with various private organizations and associations and commissioned research papers on some issues.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Black and Minority Health — Continued

The Task Force found that 60,000 excess deaths occur each year in minority populations (Table 1). Six causes of death were identified that together account for more than 80% of the excess mortality. The ranking of these health problems according to excess deaths differs for each minority population; the problems are listed here in alphabetical order, with some examples of excess mortality rates observed in different minority groups:

Cancer. Cancer accounts for 16% of excess mortality among black males under age 70 years and 10% for black females.

Cardiovascular disease and stroke. Cardiovascular diseases account for 24% of excess mortality among black males and 41% among black females.

Chemical dependency, measured by deaths due to cirrhosis. Cirrhosis of the liver, which is associated with excessive use of alcohol, accounts for 13% of excess mortality among Native American males and 22% among Native American females under age 70 years.

Diabetes. Diabetes accounts for 38% of excess deaths among Mexican-born Hispanic females.

Homicides and accidents (unintentional injuries). Homicides account for 60% of excess mortality among Hispanics under 65 years of age. Unintentional injuries account for 44% of excess deaths among male, and 30% among female, Native Americans. Homicides and unintentional injuries account for 19% of excess mortality among black males under age 70 years and 38% for those under age 45 years. For black females, the disparities are somewhat less—6% and 14%, respectively. A substantial proportion of excess deaths due to homicide and unintentional injury may be associated with excessive use of alcohol and other drugs.

Infant mortality. Of excess deaths among black females up to age 45 years, death in the first year of life accounts for 35% of that excess.

TABLE 1. Average annual excess* and total deaths in minority populations up to age 70 years, by selected causes, by sex — United States, 1979-1981

Cause of mortality	Males				Females			
	Black	Mexican-born†	Native American	Asian	Black	Mexican-born*	Native American	Asian
Cardiovascular disease	8,469	-362	-165	-1,059	9,712	-39	-21	-408
Cancer	5,782	-288	-243	-471	2,269	-145	-182	-450
Cirrhosis	1,362	-30	144	-117	782	-62	124	-65
Infant mortality	3,317	-76	49	-105	2,861	-26	53	-57
Diabetes	646	-2	31	-21	1,203	12	47	-22
Injuries	1,113	553	469	-523	134	-2	168	-119
Homicide	6,708	701	88	-39	1,381	20	31	1
Total	35,112	423	670	-2,901	23,545	-263	372	-1,373

*Excess mortality may be negative where observed mortality was less than that seen in whites. The numbers for Native Americans and Asian/Pacific Islanders, however, are based on much smaller denominators than the other populations and therefore are more subject to error.

†Figures given here represent only one subgroup within the Hispanic population for which mortality data were available. Comparable data on other Hispanic subgroups were not available or were incomplete.

Black and Minority Health — Continued

The relative ratio of average age-adjusted, sex-specific mortality in minority populations, compared to that in the nonminority population, by selected cause, suggests the relative importance of specific health problems within each group (Table 2).

One of the Task Force's major concerns was the quality of available data, especially on Hispanics (Tables 1 and 2). For example, for the Hispanic population, separate mortality data are only available on those who are foreign-born. Mortality data for the Asian-American population reflect predominantly the longer established subpopulations of Chinese, Japanese, and Filipino ancestry much more than recent immigrants.

The Task Force made eight main recommendations to the Secretary, each of which was followed by several specific suggestions:

1. Implement an outreach campaign, specifically designed for minority populations, to disseminate targeted health information, educational materials, and program strategies.
2. Increase patient education by developing materials and programs responsive to minority needs and by improving provider awareness of minority cultural and language needs.
3. Improve the access, delivery, and financing of health services to minority populations through increased efficiency and acceptability.
4. Develop strategies to improve the availability and accessibility of health professionals to minority communities through communication and coordination with nonfederal entities.
5. Promote and improve communication and coordination among federal agencies in administering existing programs for improving the health status and availability of health professionals to minorities.
6. Provide technical assistance and encourage efforts by local and community agencies to meet minority-health needs.
7. Improve the quality, availability, and use of health data pertaining to minority populations.

TABLE 2. Relative ratio of average age-adjusted mortality in minority populations up to age 70 years, by selected causes, by sex — United States, 1979-1981

Cause of mortality	Males				Females			
	Black	Mexican-born*	Native American	Asian	Black	Mexican-born*	Native American	Asian
Cardiovascular disease	1.5	0.6	0.8	0.5	2.2	0.9	0.9	0.6
Cancer	1.6	0.5	0.5	0.7	1.2	0.7	0.5	0.6
Cirrhosis	2.0	1.2	3.2	0.4	2.1	0.9	4.9	0.3
Infant mortality†	2.0	0.1	1.2	0.7	2.1	0.1	1.3	0.8
Diabetes	2.2	0.9	2.2	0.7	3.1	1.4	3.1	0.7
Injuries	1.2	1.7	2.1	0.5	1.1	1.0	2.3	0.6
Homicide	6.5	5.8	2.3	0.8	4.3	1.6	2.5	1.0
Total	1.7	1.1	1.3	0.6	1.8	0.9	1.3	0.6

*Figures given here represent only one subgroup within the Hispanic population for which mortality data were available. Comparable data on other Hispanic subgroups were not available or were incomplete.

†Infant mortality data for those who were foreign-born are not representative, since infant deaths before emigration are excluded.

Black and Minority Health - Continued

8. Adopt and support research to investigate factors affecting minority health, including risk-factor identification, education interventions, and prevention and treatment services.

Reported by Office of the Director, CDC.

Editorial Note: The *Report of the Secretary's Task Force on Black and Minority Health* represents a significant step in the process of establishing a consensus on the major health problems affecting minority Americans. The first volume of the 10-volume Task Force Report summarizes the data on minority-health problems and recommendations to address the disparities between minority and nonminority populations. Subsequent volumes will contain a more complete discussion of selected topics prepared by the subcommittees.

Recommendations were intended to emphasize the following principles: (1) incorporate minority health initiatives into existing DHHS programs to address health conditions amenable to immediate improvement; (2) press for greater public and private involvement in a common effort to eliminate the health disparity; (3) resolve unanswered questions through a concerted program of research and data collection; and (4) seek new strategies to minimize health inequities between minorities and nonminorities. The recommendations propose activities for a coordinated effort by which DHHS may redirect some of its resources to address the demonstrated disparity in health status between minority and nonminority populations. In addition to expertise and experience in the areas studied, the senior scientists and officials from DHHS selected as primary members of the Task Force have programmatic authority that enhances the opportunity to implement recommendations of the Task Force. A special office (Office of Minority Health) has been established in DHHS to manage the implementation of the recommendations. Copies of the executive summary of the report may be requested from Health Information Clearing House, P.O. Box 1133, Washington, D.C. 20013-1133; telephone (800) 336-4797 (in Virginia: [703] 522-2590).

References

1. U.S. Bureau of the Census. America's black population, 1970 to 1982: a statistical view. Washington, D.C.: U.S. Department of Commerce, 1983.
2. U.S. Bureau of the Census. American Indian, Eskimo, and Aleut populations. Washington, D.C.: U.S. Department of Commerce, 1984.
3. U.S. Bureau of the Census. Asian and Pacific Islander population. Washington, D.C.: U.S. Department of Commerce, 1984.
4. National Center for Health Statistics. Health indicators for Hispanic, black, and white Americans. Washington, D.C.: U.S. Department of Health and Human Services, 1984. DHHS publication no. (PHS) 84-1576.
5. National Center for Health Statistics. Health, United States, 1984. Washington, D.C.: U.S. Department of Health and Human Services, 1984. DHHS publication no. (PHS) 85-1232.
6. National Center for Health Statistics. Health, United States, 1983. Washington, D.C.: U.S. Department of Health and Human Services, 1983. DHHS publication no. (PHS) 84-1232.
7. Indian Health Service. Indian Health Service chart book series. Washington, D.C.: U.S. Department of Health and Human Services, Public Health Service, 1984.
8. Bureau of Health Professions. Minorities and women in the health fields. Washington, D.C.: U.S. Department of Health and Human Services, Public Health Service, 1984. DHHS publication no. (HRSA) HRS-DV84-5.
9. U.S. Department of Health, Education, and Welfare. Healthy people. The Surgeon General's report on health promotion and disease prevention. Washington, D.C.: Office of the Assistant Secretary for Health and Surgeon General, Public Health Service, 1979. DHEW (PHS) publication no. 79-55071.
10. Office of Disease Prevention and Health Promotion. Strategies for promoting health for specific populations. Washington, D.C.: U.S. Department of Health and Human Services, 1981. DHHS publication no. (PHS) 81-50169.

Leading Work-Related Diseases and Injuries—United States

The National Institute for Occupational Safety and Health (NIOSH) has developed a list of 10 leading work-related diseases and injuries. The first six categories have been described previously (1-6); a discussion of the seventh category, Neurotoxic Disorders, appears below.

NEUROTOXIC DISORDERS

Background. Diseases of the nervous system resulting from toxic exposures in the workplace were known as early as the first century A.D., when Pliny identified palsy as a manifestation of lead poisoning among workers exposed to lead dust (7). In 1557, Jean Fernel linked gingival pigmentation, tremor, and behavioral changes to occupational mercury poisoning (8); in the nineteenth century, Delpech recognized rubber processing as the cause of the bizarre psychoses occurring among French workers who manufactured condoms and balloons in small cottage industries. Later, carbon disulfide was implicated as the specific neurotoxic agent (9).

Industrial hygiene practices have improved in the twentieth century, and some animal models of neurotoxic disease have been developed. In addition, workers who become ill often draw attention to outbreaks of neurotoxic diseases. Despite the prior identification of acrylamide as neurotoxic in animals, its neurotoxicity in humans was first recognized in the 1950s, when several Japanese workers involved in a pilot production project developed peripheral neuropathy (10). During the 1960s and early 1970s, dozens of cases of neuropathy occurred among Japanese and Italian workers exposed to solutions containing *n*-hexane during the manufacture of shoes (11). Subsequently, high doses of *n*-hexane were found to be neurotoxic in exposed animals. In the past 15 years alone, outbreaks of serious human neurotoxicity occurred among workers exposed to three substances not previously known to be neurotoxic: the chlorinated hydrocarbon, chlordecone, which caused opsoclonus, tremor, disturbances of gait, and changes in personality (12); and two hexacarbons, methyl-*n*-butyl ketone and 2-*t*-butylazo-2-hydroxy-5-methylhexane, both of which caused a predominantly peripheral neuropathy (13,14).

Nature of Neurotoxic Disorders. Neurotoxic disorders are on the NIOSH list of Ten Leading Work-Related Diseases and Injuries (1) because of their potential severity—as exemplified by the neurotoxicity of chlordecone—and because of the large number of workers potentially at risk. A conservative estimate of the workers exposed full time to one or more neurotoxic agents is 7.7 million (15). The number of potentially neurotoxic chemicals found in the workplace exceeds 850; an abbreviated list of the more commonly used of these chemicals is shown in Table 3 (16).

Clinically, symptoms and signs of neurotoxicity can be diverse. Depending on the intensity of exposure, the molecular configuration of the agent, and the mechanism of toxicity, either central or peripheral neurologic effects may predominate. Most neurotoxic chemicals, however, affect both the central and peripheral nervous systems. Because the symptoms of peripheral neuropathy are more specific and the nerves themselves more directly accessible to precise diagnostic examinations, the effects of neurotoxic agents on the peripheral nervous system are usually more easily identified than effects on the central nervous system (CNS). Early symptoms of peripheral neuropathy may include numbness, tingling, or pain in the feet or hands. As the disease progresses, clumsiness or incoordination due to both sensory and motor changes may develop. Production workers may find their ability to do usual work partially or fully impaired. Chemicals used extensively in industry, which cause peripheral neu-

Work-Related Diseases and Injuries — Continued

ropathy when present in sufficiently high and persistent concentrations, include: lead, *n*-hexane, acrylamide, carbon disulfide, mercury, and methyl bromide (17,18) (Table 4). Several chemicals are known to cause selective impairment of cranial-nerve function, including dysfunction of the fifth cranial nerve (trichloroethylene) (18).

The effects of neurotoxic agents on the CNS present a far wider range of disturbances (16,18,19) (Table 5). At times, the most striking effects are changes in mood and personality (20). High levels of exposure to manganese or carbon disulfide produce psychoses and suicidal tendencies. Delusions and hallucinations may result from exposure to high concentrations of solvents, such as methylene chloride. Manifestations of cognitive dysfunction, such as reduced attention span, lack of alertness, and memory loss, are prominent neurotoxic effects that may occur in addition to personality changes after exposure to many solvents and to asphyxiants, such as carbon monoxide. Other neurologic effects occur under certain restricted conditions of exposure to unique chemical substances (Table 6).

Although research into the neurobehavioral effects of industrial chemicals is relatively new, early results suggest that occupational neurotoxicity may be a larger problem than previously suspected. Sensitive methods for evaluating subtle losses in cognitive function have only recently been applied to the evaluation of exposed workers. Because of the complexity of the nervous system and the variety of potentially neurotoxic exposures, the true scope of this health hazard in the workplace is unknown.

Reported by Div of Biomedical and Behavioral Science, Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Studies of the neurotoxicity of workplace chemicals demonstrate the problems encountered in recognizing occupational disease in general. Despite occasional large and dramatic outbreaks of neurotoxic disorders, such as those mentioned above, more often small numbers of workers in many workplaces are chronically exposed to neurotoxic agents

TABLE 3. Commonly used industrial chemicals recognized as neurotoxic

Acetyl ethyl tetramethyl tetralin	Cobalt	Methyl <i>n</i> -butyl ketone
Acetyl pyridine	Cuprizone	Nickel (carbonyl)
Acrylamide	Cyanide	Nitrogen trichloride
Adiponitrile	2,4-Dichlorophenoxy acetic acid (2,4-D)	Organochlorine insecticides
Alkyl phosphates	Dichlorodiphenyl tri chloroethane (DDT)	Organophosphate esters
Aluminum	Diethyl ether	Organotins (triethyltin)
Aniline	Diisopropyl fluorophosphate (DFP)	Paraquat
Arsenic, inorganic	Dimethyl sulphate	Phenol
Arsine	Ethylene dichloride	Phenyl mercury
Aryl phosphates	Hexachlorophene	Phthalate esters
Azide	<i>n</i> -Hexane	Polybrominated biphenyls (PBB's)
Barium	Hydroquinone	Selenium
Benzene	Lead	Styrene
Boron	Lead, tetraethyl	Sulfur dioxide
<i>p</i> -Bromophenyl acetylurea	Leptophos	Tetrachlorobiphenyl
Cadmium	Malonitrile	Thallium
Carbon disulfide	Manganese	Toluene
Carbon monoxide	Mercury	Trichloroethylene
Carbon tetrachloride	Methanol	Triorthocresylphosphate (TOCP)
Chlordane	Methyl bromide	Vanadium, inorganic salt
Chlordecone	Methyl chloride	Zinc
Chloroprene		Zinc pyridinethione

Work-Related Diseases and Injuries — Continued

that subtly and slowly alter nervous-system functions. Several neurotoxic syndromes mimic diseases of nonoccupational and "idiopathic" etiology, e.g., the toxic axonopathy associated with exposure to various metals and solvents, the parkinsonian syndrome of chronic intoxication with manganese, and the organic brain syndrome of chronic solvent intoxication. Because of these similarities to other nonoccupational diseases, such cases are frequently not identified as occupational in origin. In addition, many physicians are not trained to take an adequate occupational medical history (27). For these reasons, the prevalence of occupational neurologic disease is unknown, and important causal relationships between chemicals and disease remain obscure.

The prevention of neurotoxicity among workers will require strategies such as those suggested in the 1990 objectives for improving the nation's health (22), developed by the U.S. Public Health Service: (1) analyses of structural analogues of known neurotoxic agents in an effort to predict the neurotoxicity of untested chemicals; (2) continuing search for animal models of disease; (3) ongoing research in establishing an acceptable human exposure level for identified neurotoxic agents; (4) epidemiologic evaluations of suspected neurotoxicity; (5) development of simple screening tools for use on asymptomatic populations exposed to known neurotoxic agents; and (6) premanufacture and premarket testing of new chemicals as required by the Toxic Substances Control Act (23). As in the prevention of other work-related diseases, however, the most direct and effective method for preventing neurotoxic illness will continue to be the environmental control of exposures to neurologic chemicals. Such efforts as the substitution of less toxic substances where possible, engineering controls, teaching appropriate work practices, and educating workers about the potential neurotoxicity of chemicals will aid a comprehensive prevention effort.

References

1. CDC. Leading work-related diseases and injuries—United States. MMWR 1983;32:24-6, 32.
2. CDC. Leading work-related diseases and injuries—United States. MMWR 1983;32:189-91.

TABLE 4. Examples of peripheral neuropathies associated with occupational toxins

Type of neuropathy	Toxin	Comments
Motor	Lead	Wrist extensors primarily involved; wrist and ankle drop are rare.
Mixed sensorimotor	Acrylamide	Ataxia; desquamation of hands and soles; sweating of palms.
	Arsenic	Early distal paresthesias; pain in limbs, especially calves; hyperpathia of feet; weakness prominent in legs.
	Carbon disulfide	Peripheral neuropathy rather mild; CNS effects more important.
	Carbon monoxide	After severe intoxication.
	DDT	Only with ingestion.
	n-Hexane, methyl n-Butyl ketone	Distal paresthesias, motor weakness; weight loss, fatigue, and muscle cramps.
	Mercury	Predominantly distal sensory involvement; more common with alkyl mercury exposure.

Work-Related Diseases and Injuries — Continued

3. CDC. Leading work-related diseases and injuries—United States. MMWR 1984;33:125-8.
4. CDC. Leading work-related diseases and injuries—United States. MMWR 1984;33:213-5.
5. CDC. Leading work-related diseases and injuries—United States. MMWR 1985;34:219-22, 227.
6. CDC. Leading work-related diseases and injuries—United States. MMWR 1985;34:537-40.
7. Hunter D. The diseases of occupations. Sixth edition. London: Hodder and Stoughton, 1978:251.
8. Chang LW. Mercury. In: Spencer PS, Schaumburg HH, eds. Experimental and clinical neurotoxicology. Baltimore, Maryland: Williams & Wilkins, 1980:508-26.
9. Seppäläinen AM, Haltia M. Carbon disulfide. In: Spencer PS, Schaumburg HH, eds. Experimental and clinical neurotoxicology. Baltimore, Maryland: Williams & Wilkins, 1980:356-73.
10. Le Quesne PM. Acrylamide. In: Spencer PS, Schaumburg HH, eds. Experimental and clinical neurotoxicology. Baltimore, Maryland: Williams & Wilkins, 1980:309-25.
11. Spencer PS, Couri D, Schaumburg HH. *n*-hexane and methyl *n*-butyl ketone. In: Spencer PS, Schaumburg HH, eds. Experimental and clinical neurotoxicology. Baltimore, Maryland: Williams & Wilkins, 1980:456-75.
12. Taylor JR, Selhorst JB, Calabrese VP. Chlordecone. In: Spencer PS, Schaumburg HH, eds. Experimental and clinical neurotoxicology. Baltimore, Maryland: Williams & Wilkins, 1980:407-21.

(Continued on page 121)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	8th Week Ending			Cumulative 8th Week Ending		
	Feb. 22, 1986	Feb. 23, 1985	Median 1981-1985	Feb. 22, 1986	Feb. 23, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	224	92	N	1,804	878	N
Aseptic meningitis	80	80	73	633	553	655
Encephalitis: Primary (arthropod-borne & unsp.)	16	19	19	119	120	123
Post-infectious	-	2	1	7	18	11
Gonorrhea: Civilian	13,289	15,233	16,561	117,512	119,548	141,048
Military	398	315	344	2,272	2,448	3,829
Hepatitis: Type A	397	481	527	3,333	3,075	3,427
Type B	388	518	479	3,290	3,533	3,341
Non A, Non B	53	87	N	409	572	N
Unspecified	75	57	167	747	618	1,046
Legionellosis	8	10	N	78	99	N
Leprosy	-	11	9	31	44	34
Malaria	13	19	19	90	102	102
Measles: Total*	249	27	28	399	112	112
Indigenous	246	27	N	390	79	N
Imported	3	-	N	9	33	N
Meningococcal infections: Total	63	86	86	444	447	489
Civilian	63	86	86	444	447	489
Military	-	-	-	-	-	1
Mumps	65	102	99	369	494	603
Pertussis	34	38	38	290	189	178
Rubella (German measles)	3	4	22	51	30	124
Syphilis (Primary & Secondary): Civilian	389	507	669	3,470	3,772	4,661
Military	6	-	7	28	26	64
Toxic Shock syndrome	4	14	N	26	62	N
Tuberculosis	377	347	416	2,501	2,425	2,999
Tularemia	1	3	2	12	19	13
Typhoid fever	7	6	9	31	39	60
Typhus fever, tick-borne (RMSF)	5	-	-	7	4	8
Rabies, animal	92	97	109	548	609	664

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Bows 1)	8
Botulism Foodborne (Calif 1)	3	Plague	-
Infant (Calif 1)	7	Poliomyelitis, Paralytic	-
Other	-	Psittacosis	4
Brucellosis (Mo 1)	6	Rabies, human	-
Cholera	-	Tetanus (S Dak 1)	5
Congenital rubella syndrome	-	Trichinosis	7
Congenital syphilis, ages < 1 year	1	Typhus fever flea-borne (endemic, murine)	1
Diphtheria	-		

*Three of the 249 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
February 22, 1986 and February 23, 1985 (8th Week)

Reporting Area	AIDS	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious	Cum 1986	Cum 1985	A	B	NA/NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	1,804	80	119	7	117,512	119,548	397	388	53	75	8	31
NEW ENGLAND	96	4	7	-	2,894	3,651	6	28	2	3	2	1
Maine	3	-	-	-	137	167	1	4	1	-	-	-
NH	3	-	2	-	88	77	-	-	-	-	-	-
VT	1	-	2	-	45	37	2	-	-	-	-	-
Mass.	57	2	2	-	1,261	1,208	2	15	1	3	1	1
RI	9	-	-	-	274	295	-	3	-	-	1	-
Conn.	23	2	1	-	1,089	1,867	1	6	-	-	-	-
MID ATLANTIC	653	7	19	-	20,330	17,416	23	20	1	3	-	4
Upstate N.Y.	49	2	6	-	2,274	2,114	12	4	-	-	-	-
N.Y. City	432	-	7	-	12,430	7,778	-	-	-	-	-	4
N.J.	122	-	2	-	2,072	3,326	7	10	1	3	-	-
Pa.	50	5	4	-	3,554	4,198	4	6	-	-	-	-
E.N. CENTRAL	80	7	21	1	15,805	17,432	12	15	-	3	2	1
Ohio	27	4	6	1	4,606	4,599	6	9	-	1	-	-
Ind.	15	0	-	-	2,440	1,347	0	0	0	0	0	-
Ill.	17	-	1	-	2,222	5,618	-	-	-	-	-	-
Mich.	21	3	14	-	5,482	4,995	6	6	-	2	2	1
Wis.	-	-	-	-	1,055	873	-	-	-	-	-	-
W.N. CENTRAL	39	2	-	1	5,667	6,387	16	21	2	-	-	1
Minn.	19	1	-	-	809	1,020	2	1	-	-	-	1
Iowa	2	1	-	-	606	689	-	3	2	-	-	-
Mo.	10	-	-	-	2,745	2,828	3	13	-	-	-	-
N. Dak.	2	-	-	-	63	38	2	-	-	-	-	-
S. Dak.	1	-	-	-	93	123	5	-	-	-	-	-
Nebr.	3	-	-	-	309	623	4	4	-	-	-	-
Kans.	2	-	-	1	1,042	1,062	-	-	-	-	-	-
S. ATLANTIC	219	23	24	5	25,459	24,787	25	82	12	4	4	-
Del.	5	-	2	-	527	534	1	-	-	-	-	-
Md.	24	1	8	-	3,647	3,479	4	11	2	1	2	-
D.C.	21	1	-	-	2,488	2,110	-	1	-	-	-	-
Va.	31	6	11	-	2,771	2,674	2	4	6	-	-	-
W. Va.	-	1	-	-	347	345	-	2	-	-	1	-
N.C.	16	1	2	-	4,198	5,016	-	7	1	1	1	-
S.C.	11	4	-	-	2,988	3,191	-	12	-	-	-	-
Ga.	16	-	-	-	-	-	2	13	-	-	-	-
Fla.	95	9	1	5	8,493	7,438	16	32	3	7	-	-
E.S. CENTRAL	23	8	12	-	10,556	10,603	7	39	2	4	-	-
Ky.	5	2	6	-	1,223	1,098	3	1	1	-	-	-
Tenn.	12	1	1	-	4,257	4,225	2	26	-	1	-	-
Ala.	2	4	5	-	2,756	3,228	1	9	1	2	-	-
Miss.	4	1	-	-	2,320	2,052	1	3	-	1	-	-
W.S. CENTRAL	170	6	7	-	15,893	17,724	36	22	7	15	-	-
Ark.	6	-	-	-	1,527	1,770	1	1	-	-	-	-
La.	26	-	-	-	2,884	3,668	-	6	-	-	-	-
Okla.	2	1	1	-	1,807	1,880	6	5	2	4	-	-
Tex.	136	5	6	-	9,675	10,446	29	10	5	11	-	-
MOUNTAIN	58	2	5	-	3,502	3,991	38	27	4	9	-	2
Mont.	-	-	-	-	96	115	3	1	-	1	-	-
Idaho	1	-	-	-	104	128	-	1	-	-	-	-
Wyo.	2	-	2	-	83	107	1	-	-	-	-	-
Colo.	34	1	-	-	996	1,166	5	6	1	2	-	-
N. Mex.	4	-	-	-	422	475	9	3	-	-	-	-
Ariz.	6	1	2	-	903	1,197	11	7	1	2	-	1
Utah	5	-	1	-	172	179	1	-	1	4	-	-
Nev.	6	-	-	-	726	624	8	9	1	-	-	1
PACIFIC	466	21	24	-	17,406	17,561	234	134	23	34	-	22
Wash.	21	2	1	-	1,324	1,329	7	10	1	1	-	1
Oreg.	10	-	-	-	683	1,024	76	11	3	-	-	-
Calif.	427	19	21	-	14,664	14,533	150	108	18	33	-	21
Alaska	4	-	2	-	557	409	1	5	-	-	-	-
Hawaii	4	-	-	-	178	266	-	-	1	-	-	-
Guam	-	0	-	-	-	19	0	0	0	0	0	-
PR	16	2	2	-	340	678	-	6	-	-	-	-
VI	-	-	-	-	32	57	-	-	-	-	-	-
Pac. Trust Terr.	-	0	-	-	-	146	0	0	0	0	0	-
Amer. Samoa	-	0	-	-	-	-	0	0	0	0	0	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 22, 1986 and February 23, 1985 (8th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		Cum 1986	1986	Cum 1986	1986										
UNITED STATES	90	246	390	3	9	112	444	65	369	34	290	189	3	51	30
NEW ENGLAND	4	5	5	-	-	-	37	-	6	8	24	8	-	-	2
Maine	-	-	-	-	-	-	7	-	-	1	2	2	-	-	-
N.H.	-	-	-	-	-	-	1	-	3	-	7	2	-	-	1
Vt.	-	-	-	-	-	-	6	-	-	-	1	1	-	-	-
Mass.	3	5	5	-	-	-	7	-	-	4	8	2	-	-	1
R.I.	-	-	-	-	-	-	3	-	3	-	1	1	-	-	-
Conn.	1	-	-	-	-	-	13	-	-	3	5	-	-	-	-
MID ATLANTIC	11	163	174	-	2	2	71	6	25	-	40	34	-	15	6
Upstate N.Y.	-	-	-	-	2	1	20	1	8	-	31	15	-	12	1
N.Y. City	5	-	11	-	-	-	8	-	-	-	-	5	-	3	4
N.J.	2	163	163	-	-	-	8	5	12	-	-	-	-	-	1
Pa.	4	-	-	-	-	-	35	-	5	-	9	14	-	-	-
E.N. CENTRAL	2	-	25	-	-	42	50	28	159	3	70	45	-	1	4
Ohio	1	-	-	-	-	-	23	2	34	2	38	8	-	-	-
Ind.	-	U	-	U	-	-	6	U	7	U	9	11	U	-	-
Ill.	-	-	16	-	-	4	10	24	70	-	2	8	-	-	-
Mich.	1	-	-	-	-	12	11	2	29	1	7	2	-	-	4
Wis.	-	-	9	-	-	26	-	-	19	-	14	16	-	1	-
W.N. CENTRAL	2	1	43	-	-	-	20	1	15	-	17	19	-	2	4
Minn.	1	-	-	-	-	-	4	-	-	-	10	9	-	-	-
Iowa	1	-	-	-	-	-	4	-	5	-	2	1	-	-	-
Mo.	-	-	-	-	-	-	9	-	3	-	1	3	-	1	-
N. Dak.	-	-	-	-	-	-	-	1	1	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Kans.	-	1	43	-	-	-	2	-	6	-	3	3	-	1	4
S. ATLANTIC	16	20	44	-	1	3	89	6	43	9	52	28	1	5	1
Del.	-	-	-	-	-	-	1	9	-	-	-	-	-	-	-
Md.	3	-	-	-	-	1	2	-	3	3	13	4	-	-	-
D.C.	-	-	-	-	-	-	8	-	5	1	6	1	-	-	-
Va.	5	-	-	-	-	-	1	16	-	-	-	-	-	-	-
W. Va.	-	-	-	-	-	-	10	1	4	4	10	6	-	-	-
N.C.	2	-	-	-	-	-	16	1	3	-	1	-	-	-	-
S.C.	-	14	37	-	-	-	12	1	3	-	17	8	-	-	1
Ge.	2	-	-	-	-	-	31	2	9	1	5	10	1	5	-
Fla.	4	6	7	-	1	1	2	9	1	5	10	1	5	-	-
E.S. CENTRAL	2	-	-	-	-	-	25	-	4	-	8	3	-	1	1
Ky.	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn.	-	-	-	-	-	-	10	-	1	-	2	1	-	-	-
Ala.	-	-	-	-	-	-	8	-	1	-	5	1	-	-	-
Miss.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
W.S. CENTRAL	2	22	22	-	-	-	22	3	26	7	14	12	-	6	1
Ark.	-	21	21	-	-	-	2	-	2	-	-	6	-	-	1
La.	-	-	-	-	-	-	2	-	-	1	1	-	-	-	-
Okl.	1	-	-	-	-	-	5	N	N	6	13	6	-	-	-
Tex.	1	1	1	-	-	-	15	3	24	-	-	-	-	6	-
MOUNTAIN	4	20	29	2	4	42	25	12	51	4	33	6	-	-	1
Mont.	-	-	-	-	-	42	4	-	1	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	1	2	-	7	-	-	-	-
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo.	1	-	-	2 †	2	-	3	-	3	3	9	2	-	-	-
N. Mex.	-	4	13	-	-	2	4	N	N	1	6	1	-	-	-
Ariz.	2	15	15	-	-	-	7	10	41	-	10	1	-	-	1
Utah	-	-	-	-	-	-	2	-	1	-	1	2	-	-	-
Nev.	1	1	1	-	-	-	2	1	3	-	-	-	-	-	-
PACIFIC	47	15	48	1	2	23	105	9	40	3	32	33	2	21	10
Wash.	5	9	18	1 †	1	1	15	2	3	1	14	3	-	-	-
Oreg.	5	-	-	-	-	-	10	N	N	1	2	4	-	-	-
Calif.	37	4	27	-	1	18	76	7	32	1	13	24	2	21	10
Alaska	-	-	-	-	-	-	4	-	2	-	1	-	-	-	-
Hawaii	-	2	3	-	-	4	-	-	3	-	2	2	-	-	-
Guam	-	U	-	U	-	8	-	U	-	U	-	-	U	-	1
P.R.	1	-	-	-	-	20	1	-	8	-	2	1	-	-	4
V.I.	-	-	-	-	-	6	-	-	2	-	-	-	-	-	-
Pac. Trust Terr.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International ‡ Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
February 22, 1986 and February 23, 1985 (8th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	3 470	3 772	4	2 501	2 425	12	31	7	546
NEW ENGLAND	87	83	-	83	93	-	1	1	-
Maine	4	2	-	10	3	-	-	-	-
N.H.	3	2	-	2	6	-	-	-	-
Vt.	4	-	-	5	-	-	-	-	-
Mass.	46	45	-	36	55	-	1	1	-
R.I.	5	1	-	4	13	-	-	-	-
Conn.	25	33	-	26	16	-	-	-	-
MID ATLANTIC	467	501	-	493	521	-	2	-	72
Upstate N.Y.	23	26	-	86	69	-	-	-	11
N.Y. City	308	331	-	233	294	-	2	-	-
N.J.	115	90	-	89	28	-	-	-	-
Pa.	21	54	-	85	130	-	-	-	61
E.N. CENTRAL	83	191	1	363	299	1	3	-	7
Ohio	17	16	1	49	62	1	-	-	-
Ind.	24	10	U	36	36	-	-	-	1
Ill.	18	119	-	175	127	-	-	-	-
Mich.	14	38	-	81	57	-	3	-	2
Wis.	10	8	-	22	17	-	-	-	4
W.N. CENTRAL	34	44	2	44	55	4	2	-	64
Minn.	6	18	-	8	7	-	1	-	-
Iowa	3	7	-	5	13	1	-	-	18
Mo.	18	11	1	24	20	3	1	-	6
N. Dak.	2	-	-	3	2	-	-	-	27
S. Dak.	-	1	1	-	2	-	-	-	13
Nebr.	2	1	-	2	3	-	-	-	-
Kans.	3	6	-	2	8	-	-	-	-
S. ATLANTIC	896	951	-	492	484	2	2	3	97
Del.	4	6	-	2	6	-	-	-	-
Md.	66	72	-	31	38	1	-	-	52
D.C.	54	47	-	23	23	-	-	-	-
Va.	72	49	-	32	27	-	-	-	15
W. Va.	3	1	-	18	13	-	-	-	3
N.C.	96	117	-	63	52	-	2	2	-
S.C.	122	122	-	70	64	-	-	1	4
Ga.	-	-	-	51	73	1	-	-	18
Fla.	479	537	-	202	188	-	-	-	5
E.S. CENTRAL	240	369	-	229	203	2	-	2	25
Ky.	18	12	-	64	48	1	-	1	5
Tenn.	94	73	-	54	50	1	-	-	11
Ala.	84	131	-	94	83	-	-	1	9
Miss.	44	153	-	17	22	-	-	-	-
W.S. CENTRAL	823	909	-	286	203	3	-	1	58
Ark.	30	60	-	34	11	3	-	-	9
La.	144	164	-	83	41	-	-	-	-
Okla.	25	31	-	27	28	-	-	-	7
Tex.	624	654	-	142	123	-	-	1	42
MOUNTAIN	94	127	-	44	38	-	1	-	131
Mont.	1	1	-	1	5	-	-	-	56
Idaho	1	2	-	2	1	-	-	-	-
Wy.	-	4	-	-	1	-	-	-	54
Colo.	30	32	-	-	-	-	-	-	-
N. Mex.	10	17	-	13	5	-	-	-	2
Ariz.	37	66	-	18	22	-	-	-	19
Utah	3	1	-	-	1	-	1	-	-
Nev.	12	4	-	10	3	-	-	-	-
PACIFIC	746	597	1	467	529	-	20	-	92
Wash.	16	23	-	25	21	-	2	-	-
Oreg.	20	19	-	22	15	-	-	-	-
Calif.	702	545	1	387	446	-	16	-	89
Alaska	-	-	-	5	18	-	-	-	3
Hawaii	8	10	-	28	29	-	2	-	-
Guam	-	2	U	-	5	-	-	-	-
P.R.	120	153	-	43	45	-	-	-	5
V.I.	-	-	-	-	1	-	-	-	-
Pac. Trust Terr.	-	13	U	-	16	-	-	-	-
Amer Samoa	-	-	U	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
February 22, 1986 (8th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	751	547	141	33	13	17	82	S ATLANTIC	1,316	838	273	93	35	68	75
Boston, Mass.	193	123	50	9	4	7	25	Atlanta, Ga.	138	89	30	13	4	2	6
Bridgeport, Conn.	51	35	12	2	2	-	5	Baltimore, Md.	212	142	43	18	7	2	9
Cambridge, Mass.	28	21	5	1	1	-	5	Charlotte, N.C.	94	61	25	3	1	4	7
Fall River, Mass.	47	37	7	2	1	-	1	Jacksonville, Fla.	140	82	32	4	6	16	7
Hartford, Conn.	65	48	15	2	-	1	9	Miami, Fla.	106	59	29	10	1	7	3
Lowell, Mass.	45	36	6	2	-	-	8	Norfolk, Va.	65	33	13	6	2	11	5
Lynn, Mass.	15	8	5	2	-	-	-	Richmond, Va.	77	51	19	3	1	3	7
New Bedford, Mass.	27	22	6	-	-	-	2	Savannah, Ga.	37	23	8	5	1	-	1
New Haven, Conn.	55	43	6	4	-	2	1	St. Petersburg, Fla.	141	115	17	2	2	5	11
Providence, R.I.	62	49	7	2	1	3	7	Tampa, Fla.	69	52	6	6	1	3	4
Somerville, Mass.	7	5	2	-	-	-	1	Washington, D.C.	212	114	47	21	8	14	11
Springfield, Mass.	63	45	13	1	2	2	9	Wilmington, Del.	25	17	4	2	1	1	4
Waterbury, Conn.	30	25	4	1	-	-	5								
Worcester, Mass.	52	40	4	4	2	2	4								
MID ATLANTIC	3,482	2,402	691	257	55	74	204	E S CENTRAL	813	531	177	57	31	17	72
Albany, N.Y.	58	43	9	-	1	6	2	Birmingham, Ala.	158	101	38	9	4	6	11
Allentown, Pa.	22	15	7	-	-	-	1	Chattanooga, Tenn.	67	47	14	5	1	-	13
Buffalo, N.Y.	161	120	28	8	2	3	9	Knoxville, Tenn.	38	28	7	2	1	-	2
Camden, N.J.	44	24	12	2	2	4	2	Louisville, Ky.	101	67	25	5	1	3	3
Elizabeth, N.J.	27	23	3	-	1	-	1	Memphis, Tenn.	182	120	37	14	10	1	18
Erie, Pa.†	35	26	10	-	-	-	3	Mobile, Ala.	91	52	23	7	4	5	8
Jersey City, N.J.	40	29	10	-	-	-	1	Montgomery, Ala.	50	32	7	5	6	-	3
N.Y. City, N.Y.	1,944	1,324	387	162	34	37	67	Nashville, Tenn.	126	84	26	10	4	2	14
Newark, N.J.	92	48	17	19	2	3	6								
Paterson, N.J.	48	33	10	3	1	1	3	W S CENTRAL	1,347	992	172	84	50	49	56
Philadelphia, Pa.	502	341	108	37	4	14	32	Austin, Tex.	86	52	15	12	3	4	4
Pittsburgh, Pa.†	102	79	18	3	-	2	5	Baton Rouge, La.	53	34	8	4	2	5	3
Reading, Pa.	35	27	8	-	1	-	5	Corpus Christi, Tex.	58	28	14	5	-	3	1
Rochester, N.Y.	116	91	12	9	3	1	14	Dallas, Tex.	192	122	34	23	9	4	4
Schenectady, N.Y.	38	29	6	2	1	-	4	El Paso, Tex.	52	36	9	3	2	2	1
Scranton, Pa.†	28	15	9	3	-	1	3	Fort Worth, Tex.	87	63	14	2	2	6	6
Syracuse, N.Y.	98	66	25	4	2	1	6	Houston, Tex.‡	311	278	6	5	11	11	6
Trenton, N.J.	25	16	6	3	-	1	1	Little Rock, Ark.	76	48	20	3	3	2	12
Utica, N.Y.	25	28	7	-	-	-	4	New Orleans, La.‡	130	117	2	2	5	4	9
Yonkers, N.Y.	29	25	1	2	1	-	5	San Antonio, Tex.	159	104	30	13	9	3	9
								Shreveport, La.	49	41	4	2	1	1	2
								Tulsa, Okla.	94	61	16	10	3	4	8
E N CENTRAL	2,331	1,680	387	130	51	82	143	MOUNTAIN	708	487	120	49	28	24	55
Akron, Ohio	48	33	8	4	-	1	6	Albuquerque, N.Mex.	81	50	12	2	4	3	4
Canton, Ohio	50	42	6	-	1	1	7	Colorado Springs, Colo.	37	27	8	-	1	1	9
Chicago, Ill.‡	553	452	11	26	16	37	16	Denver, Colo.	141	95	22	15	5	4	7
Cincinnati, Ohio	139	98	31	6	3	1	17	Las Vegas, Nev.	100	67	19	13	1	-	10
Cleveland, Ohio	154	96	31	13	4	10	8	Ogden, Utah	138	92	32	7	5	2	4
Columbus, Ohio	127	86	25	10	2	4	14	Phoenix, Ariz.	27	23	2	-	1	1	8
Dayton, Ohio	128	84	26	6	1	2	5	Pueblo, Colo.	43	22	7	5	4	5	2
Detroit, Mich.	292	184	61	26	8	13	15	Salt Lake City, Utah	120	84	15	7	6	8	9
Evansville, Ind.	41	31	8	1	-	1	4								
Fort Wayne, Ind.	65	49	12	3	-	1	3	PACIFIC	1,754	1,166	347	131	52	52	118
Gary, Ind.	31	20	8	3	-	-	1	Berkeley, Calif.	22	14	5	3	-	-	1
Grand Rapids, Mich.	41	28	10	1	4	-	8	Fresno, Calif.	77	61	7	5	3	1	10
Indianapolis, Ind.	173	120	39	7	4	3	3	Glendale, Calif.	14	12	1	1	-	-	-
Madison, Wis.	54	32	15	5	1	1	7	Honolulu, Hawaii	70	45	15	5	1	4	9
Milwaukee, Wis.	130	98	23	6	1	4	5	Long Beach, Calif.	90	53	21	9	-	7	13
Peoria, Ill.	47	32	13	-	-	2	9	Los Angeles, Calif.	400	245	88	37	16	8	10
Rockford, Ill.	51	38	11	2	-	-	4	Oakland, Calif.	86	51	19	6	2	8	6
South Bend, Ind.	44	32	12	-	-	-	3	Pasadena, Calif.	20	15	4	-	-	1	-
Toledo, Ohio	69	44	15	6	3	1	5	Portland, Oreg.	121	92	21	3	2	3	4
Youngstown, Ohio	96	75	13	5	3	-	3	Sacramento, Calif.	153	111	22	12	5	3	20
W N CENTRAL	743	532	127	39	28	17	30	San Diego, Calif.	116	79	24	4	8	1	15
Des Moines, Iowa	57	43	12	-	2	-	3	San Francisco, Calif.	162	95	38	21	4	4	4
Duluth, Minn.	25	18	6	1	-	-	1	San Jose, Calif.	172	114	38	13	4	3	11
Kansas City, Kans.	36	27	6	2	1	-	1	Seattle, Wash.	140	95	26	8	5	6	2
Kansas City, Mo.	147	100	26	6	8	7	5	Spokane, Wash.	72	53	12	3	2	2	8
Lincoln, Nebr.	38	25	8	3	1	1	2	Tacoma, Wash.	39	31	6	1	-	1	2
Minneapolis, Minn.	74	48	10	8	3	5	4								
Omaha, Nebr.	93	66	20	3	4	-	10								
St. Louis, Mo.	183	119	24	9	7	4	-								
St. Paul, Minn.	48	38	6	3	1	-	-								
Wichita, Kans.	62	48	9	4	1	-	4								
TOTAL	13,245 ^{††}	9,175	2,435	873	343	400	835								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Work-Related Diseases and Injuries - Continued

TABLE 5. Clinical manifestations and causes of central nervous system (CNS) conditions

Condition	Symptoms	Signs	Latency	Prognosis following exposure cessation	Major neurotoxic substances
Acute conditions					
Acute intoxication	Dizziness, lightheadedness, balance and gait impairment, incoordination, feeling "high," Obtundation, coma, seizures, potentially fatal	Ataxia, slow psychomotor function	Minutes-hours	Reversible	Organic solvents, inhalation anesthetics
Acute toxic encephalopathy		Signs of diffuse CNS depression, reflex slowing, EEG slowing	Hours-days	Persistent deficits common	Solvents, lead, pesticides
Chronic syndromes					
Symptoms only	Mood changes (irritability, depression), sleep disorders, difficulty concentrating, memory complaints; symptoms are more noticeable to relatives than to patient	No objective signs	Weeks-months	Reversible	Carbon disulfide, lead, organic solvents
Mild chronic toxic encephalopathy					
Organic personality or mood disorders	Similar to those noted above but of greater frequency and severity	Alterations in mood or personality	Weeks-months	Incomplete reversibility possible but uncommon	Lead, organic solvents
Neurobehavioral impairment	Symptoms as above	Reduced motor speed, reduced vigilance and reaction time, plus reduced performance on memory (short-term) testing and other tests of cognitive function (i.e., visuospatial ability)	Weeks-months	Potentially reversible, partial or complete	Carbon disulfide, lead, organic solvents, possibly carbon monoxide
Severe chronic toxic encephalopathy (dementia)	Significant loss of ability to perform activities of daily living, difficulty in comprehension, profound memory loss, reduced verbal fluency	Testing compatible with severe neurologic damage and neuropsychologic impairment as seen in dementia	Unknown	Poorly reversible	Lead, organic solvents

Work-Related Diseases and Injuries — Continued

13. Allen N, Mendell JR, Billmaier DJ, Fontaine RE, O'Neill JO. Toxic polyneuropathy due to methyl *n*-butyl ketone. An industrial outbreak. *Arch Neurol* 1975;32:209-18.
14. Horan JM, Kurt TL, Landrigan PJ, Melius JM, Singal M. Neurologic dysfunction from exposure to 2-*t*-butylazo-2-hydroxy-5-methylhexane (BMMH): a new occupational neuropathy. *Am J Public Health* 1985;75:513-7.
15. National Institute for Occupational Safety and Health. National Occupational Hazard Survey, 1972-74. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1977. (DHEW [NIOSH] publication no. 78-114).
16. Anger WK, Johnson BL. Chemicals affecting behavior. In: O'Donoghue JD, ed. *Neurotoxicity of Industrial and Commercial Chemicals*. Boca Raton, Florida: CRC Press (in press).
17. O'Donoghue JL, Nasr AN, Raleigh RL. Toxic neuropathy—an overview. *J Occup Med* 1977;19:379-82.

TABLE 6. Other neurologic effects

Health effects	Agents
Motor and gait disorders	
Ataxia	Acrylamide Chlordane Chlordecone DDT <i>n</i> -Hexane Manganese Mercury (especially methyl mercury) Methyl <i>n</i> -butyl ketone Methyl chloride Toluene
Myoclonus	Benzene hexachloride Mercury
Paraplegia	Organotin compounds
Parkinsonism	Carbon disulfide Carbon monoxide Manganese
Seizures	Lead Organic mercurials Organochlorine insecticides Organotin compounds
Tremor	Carbon disulfide Chlordecone DDT Manganese Mercury
Visual-system effects	
Nystagmus	Mercury
Opsoclonus	Chlordecone
Constricted visual field	Mercury
Impaired visual acuity	<i>n</i> -Hexane Mercury Methanol

Work-Related Diseases and Injuries — Continued

18. Baker EL. Neurologic and behavioral disorders. In: Levy BS, Wegman DH, eds. Occupational health: recognizing and preventing work-related disease. Boston: Little, Brown and Co., 1983: 317-30.
19. Johnson BL, Baker EL, Gilioli R, Xintaras C, eds. Prevention of neurotoxic illness in working populations. Geneva: World Health Organization (in press).
20. Baker EL, Bus JS, Cranmer JM, et al. Workshop on neurobehavioral effects of solvents—consensus summary. *Neurotoxicology* 1985;6:99-102.
21. Goldman RH, Peters JM. The occupational and environmental health history. *JAMA* 1981;246:2831-6.
22. U.S. Public Health Service. Occupational safety and health. In: Promoting health/preventing disease: objectives for the nation. Washington, D.C.: U.S. Department of Health and Human Services, Fall 1980:39-43.
23. Toxic Substances Control Act. Public Law No. 94-469, 90, Stat. 2003, 1976.

*Epidemiologic Notes and Reports***Reported Contamination of Heparin Sodium with *Pseudomonas putida***

On three occasions, from December 1985 to January 1986, *Pseudomonas putida* was isolated from routine surveillance cultures of bone marrow harvested from three donors at a single hospital in Minnesota. Cultures of all materials added to bone marrow at the time of collection were performed by the hospital. Eight of 70 unopened 5-ml glass ampules of a single lot (#84339) of heparin sodium without preservatives (manufactured for O'Neal, Jones & Feldman Pharmaceuticals, St. Louis, Missouri, by Torigian Laboratories, Queens Village, New York) were culture-positive for *P. putida*. Heparin was added to the marrow as an anticoagulant during the collection procedure. The hospital received lot #84339 in April 1985, but it was not used until November 1985.

Two of the three contaminated marrow specimens had been administered to recipients before the culture results were known. Neither recipient had blood cultures positive for *P. putida* or clinical signs of bacteremia, although antibiotic therapy was begun for both patients approximately 24 hours after transplantation.

Investigations of *P. putida* bloodstream infections involving three other patients from two additional hospitals are ongoing. One patient, a 31-year-old female, developed *P. putida* bacteremia in July 1985, 7 days after receiving an allogeneic bone-marrow transplant. Harvested bone marrow had been mixed with heparin sodium without preservatives. The other two patients were neonates in a single hospital during July and August 1985. Their blood cultures were drawn through umbilical artery catheters and grew organisms identified as either *P. putida* or *P. fluorescens*. The catheters had been flushed with heparin sodium without preservatives. The lot numbers of heparin used on these three patients were not recorded, although the source of the product was the same as that for the Minnesota hospital.

Reported by S Cameron, BA Juni, N Van Drunen, S Reaney, S Fautsch, L Lasky, D Hurd, F Rhame, University of Minnesota Hospital, Minneapolis, M Osterholm, State Epidemiologist, Minnesota Dept of Health; J Bartley, R Voravut, T Rehder, W Palutke, Harper Hospital, Detroit, S Connolly, H Moore, D Eklom, Blodgett Memorial Medical Center, Grand Rapids, K Wilcox, State Epidemiologist, J Weber, Nosocomial Epidemiologist, Michigan Dept of Public Health; Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: *P. putida* is a glucose nonfermenting gram-negative rod that has only rarely been associated with clinical infection. *P. putida* has many biochemical characteristics similar to *P. fluorescens* (1). Heparin sodium without preservatives may be selected for use in clinical

Contamination of Heparin Sodium — Continued

situations in which preservatives might have undesirable effects, such as for maintaining patency of intravenous catheters in neonates or anticoagulation of bone marrow harvested for transplantation.

After receiving the report of apparent *P. putida* contamination of heparin ampules from the hospital in Minnesota, the U.S. Food and Drug Administration (FDA) notified the product's distributor. The distributor voluntarily contacted purchasers of lot #84339, indicating that ampules of this lot should not be used until further notice. CDC, FDA, the distributor, and the manufacturer are performing cultures to detect potential contamination of other heparin ampules.

Hospitals that have identified patients with *P. putida* bloodstream infections in the past year are requested to report their findings through local and state health departments to CDC's Hospital Infections Program, telephone (404) 329-3406.

Reference

1. GL Gilardi, ed. Glucose nonfermenting gram-negative bacteria in clinical microbiology. West Palm Beach, Florida: CRC Press, Inc., 1978.

Current Trends

Update: Influenza Activity — United States

Reports of influenza viruses in the United States isolated by the collaborating diagnostic laboratories have increased sharply, with over 200 viruses identified each week since the end of January 1986. Overall, approximately 80% of the reported viruses have been type B, but more type A(H3N2) than type B viruses have been identified among persons older than 64 years. Of type B viruses, 66.3% have been isolated from persons under 19 years old, and 3.2%, from persons over 64 years old. In comparison, 45.9% of type A(H3N2) cases occurred among persons under 19 years old; 26.1% occurred among persons over 64 years old. Forty-five states have now reported type B virus isolates; 29 states, type A(H3N2) isolates; and 28 states, both types.

For the week ending February 22, 18 states reported widespread outbreaks of influenza-like illness, and 15 states and the District of Columbia reported regional outbreaks. For the preceding week, 37 states had reported outbreak status, more than for any week since January 1981. Tallies of patients with influenza-like illnesses seen by the network of family physicians* nationwide averaged 10.9 cases for the reporting week ending February 12, compared with the 11.5 average for the preceding week and the maximum values of 11-12 cases for the two preceding seasons (Figure 1).

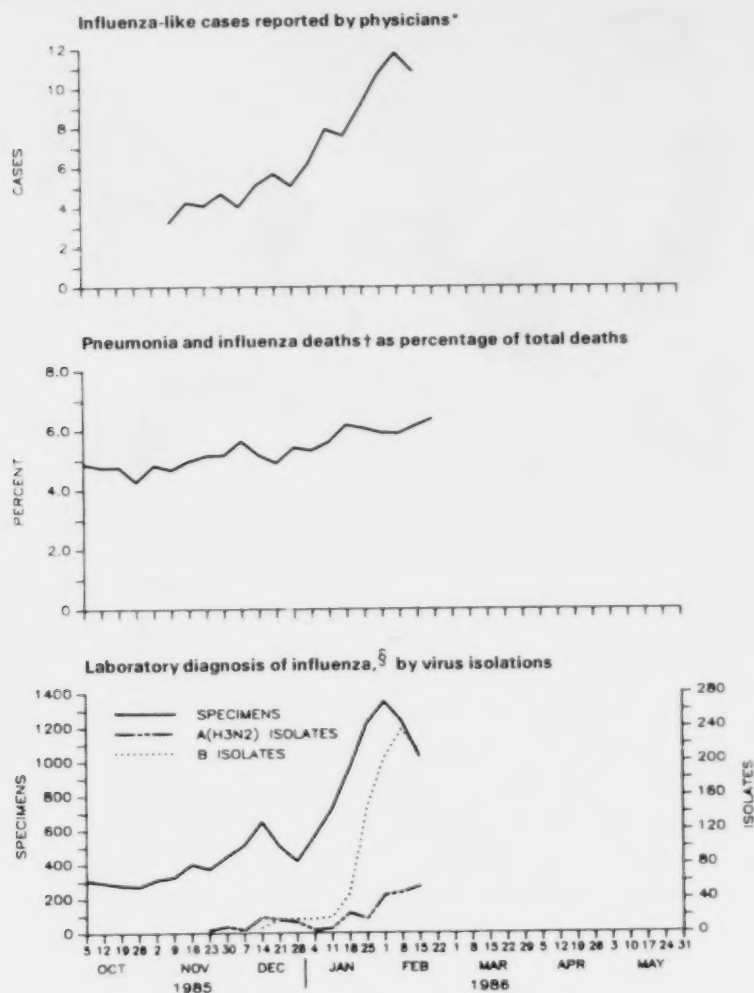
The percentage of pneumonia and influenza deaths reported from the 121 U.S. cities for the week ending February 22 was 6.3%, compared with 6.2% for the preceding week (Figure 1).

Reported by State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

*Cases reported by those members of the American Academy of Family Physicians Research Panel who serve as sentinel physicians for influenza.

Influenza — Continued

FIGURE 1. Indicators of influenza activity, by week — United States, 1985-1986

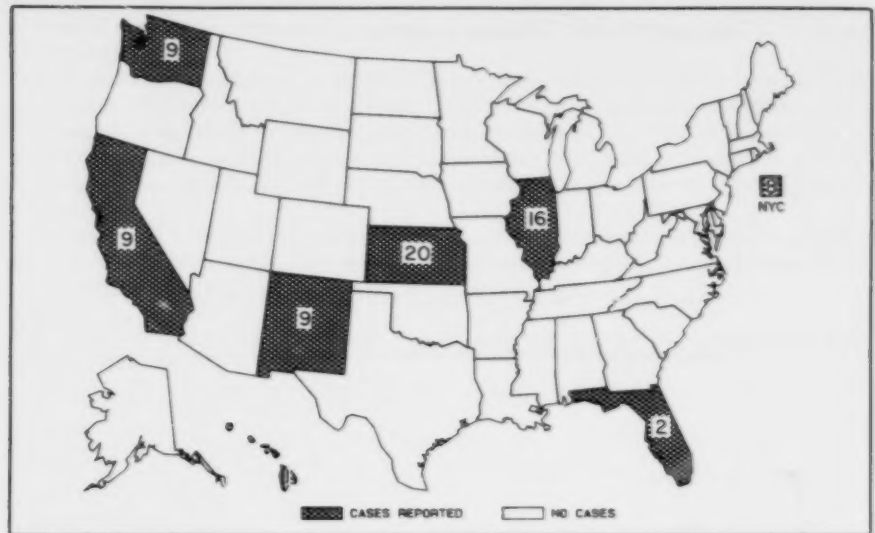


*Reported to CDC by approximately 125 physician-members of the American Academy of Family Physicians. A case was defined as a patient with fever 37.8 C (100 F) or greater and at least cough or sore throat.

†Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths where pneumonia is listed as a primary or underlying cause or where influenza is listed on the death certificate.

§Reported to CDC by WHO Collaborating Laboratories (including military sources).

FIGURE 1. Reported measles cases — United States, weeks 4-7, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21043 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAROODON DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101



MORBIDITY AND MORTALITY WEEKLY REPORT

- 129 Rubella and Congenital Rubella Syndrome — United States, 1984-1985
- 135 Update: Influenza Activity — United States
- 141 *Aedes albopictus* Introduction — Texas
- 143 Toxic Shock Syndrome Associated with *Staphylococcus aureus* — Minnesota
- 144 Update: *Haemophilus influenzae* b Polysaccharide Vaccine
- 145 Quarantine Measures

Current Trends**Rubella and Congenital Rubella Syndrome — United States, 1984-1985****RUBELLA**

In 1985, a provisional total of 604 cases of rubella (0.25 cases/100,000 population) was reported in the United States. This is the lowest annual total since rubella became a nationally notifiable disease in 1966; it represents a 20% decrease from the 1984 total of 752 cases and a 99% decline from 1969, the year of rubella vaccine licensure and the year with the greatest number of cases (57,686) ever reported (Figure 1).

Provisionally, in 1985, 14 states and the District of Columbia reported no rubella cases, compared with 12 states and the District of Columbia in 1984 and 14 reporting areas in 1983. Age and county data are not yet available for 1985. However, the number of counties reporting rubella declined from 284 (9%) in 1983 to 219 (7%) in 1984.

Comparison of national data for 1982-1984 indicates that the reported age-specific incidence of rubella declined for virtually all age groups during the past 3 years (Table 1). Children under 5 years of age continued to have the highest overall incidence (1.4 cases/100,000 population) and accounted for one-third of all patients for whom age was reported. Incidence declined by 49% among persons under 15 years old between 1982 and 1984, and by 25% from 1983 to 1984. The incidence for persons 15 years of age or older, who accounted for 48% of cases in 1984, declined by 75% between 1982 and 1984 and by 17% between 1983 and 1984 as a result of continued efforts to identify and vaccinate susceptible persons of childbearing age, particularly postpubertal females.

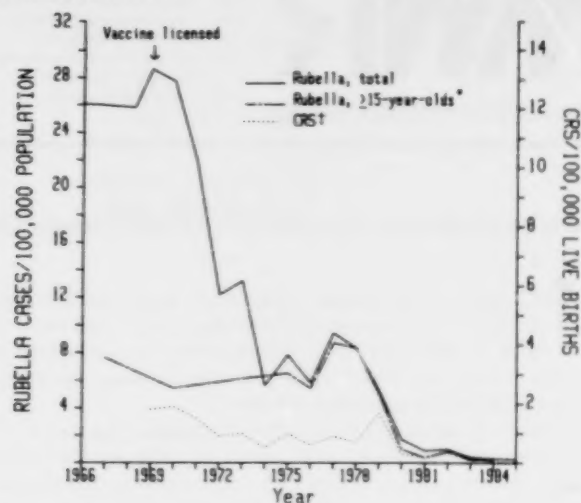
Long-term data on the occurrence of rubella among specific age groups are available from Illinois, Massachusetts, and New York City (Table 2). In the 3-year period before vaccine licensure, children had the highest occurrence of rubella, with the highest incidence rate among those 5-9 years of age. Children under 10 years of age accounted for 60% of cases, while 23% of the total cases was reported among persons 15 years of age or older. Although incidence rates declined for all age groups during 1975-1977, the greatest decreases occurred among persons under 15 years of age. The highest incidence rates were then reported among 15- to 19-year-olds, rather than 5- to 9-year-olds. Children under 10 years of age accounted for 24% of cases, while persons 15 years of age or older made up 62% of cases. Among persons 15 years of age or older, incidence rates were more than tenfold higher among 15- to 19-year-olds than among persons 20 years of age or older. More recently (1982-1984), reported incidence rates have declined by approximately 90% or more for all age groups, with the greatest decreases occurring among persons 15-19 years of age. Persons 15 years of age or older still accounted for the majority (52%) of cases but experienced a greater than 90% reduction in their risk of acquiring rubella relative to prevaccine years. The differences observed earlier in attack rates within this age group are no longer evident.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Rubella and Congenital Rubella Syndrome — Continued

FIGURE 1. Incidence rates of reported rubella and congenital rubella syndrome (CRS) — United States, 1966-1985



*Includes proration of patients of unknown age 15 years of age or older (1985 provisional data). Average annual U.S. estimate based on data from Illinois, Massachusetts, and New York City for the 3-year periods 1966-1968, 1969-1971, and 1972-1974. Age-specific data were not available for U.S. totals until 1975.

†Rate per 10⁵ births of confirmed and compatible cases of CRS by year of birth. Reporting for recent years is provisional, as cases may not be diagnosed until later in childhood.

TABLE 1. Age distribution of reported rubella cases and estimated incidence rates* — United States, 1982-1984

Age group (yrs.)	1982			1983			1984			Rate change 1982-1984 (%)
	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	
< 1	177	(8.5)	5.4	127	(15.0)	4.0	110	(16.2)	3.4	-37.0
1-4	249	(12.0)	2.0	149	(17.6)	1.2	114	(16.8)	0.9	-55.0
5-9	214	(10.3)	1.5	102	(12.1)	0.7	85	(12.5)	0.6	-60.0
10-14	155	(7.4)	1.0	93	(11.0)	0.6	44	(6.5)	0.3	-70.0
15-19	288	(13.8)	1.6	95	(11.2)	0.6	65	(9.6)	0.4	-75.0
20-24	375	(18.0)	1.9	117	(13.8)	0.6	115	(16.9)	0.6	-68.4
25-29	298	(14.3)	1.6	83	(9.8)	0.5	70	(10.3)	0.4	-75.0
≥ 30	327	(15.7)	0.3	80	(9.5)	0.1	76	(11.2)	0.1	-66.7
Total, known age	2,083	(89.6)	-	846	(87.2)	-	679	(90.3)	-	-
Total, unknown age	242	(10.4)	-	124	(12.8)	-	73	(9.7)	-	-
Total	2,325	(100.0)	1.0	970	(100.0)	0.4	752	(100.0)	0.3	-70.0

*Cases/100,000 population (projected census data) extrapolated from the age distribution of cases with known age to total cases.

Rubella and Congenital Rubella Syndrome — Continued

CONGENITAL RUBELLA SYNDROME

Data on cases of congenital rubella syndrome (CRS) are available from reports submitted weekly to *MMWR* and from the National Congenital Rubella Syndrome Register (NCRSR) maintained at the Division of Immunization, Center for Prevention Services, CDC. The *MMWR* CRS reports are case counts with no accompanying data and are tabulated by year of report. NCRSR data are obtained through reports from state and local health departments that contain clinical and laboratory information. The NCRSR monitors reports by year of birth, with cases classified into six categories, the most specific of which, for clinical CRS cases, are "confirmed" and "compatible"† (Table 3). Since the NCRSR cases are classified by year of birth, data are considered provisional for any given year and are subject to updating because of delayed reporting. This summary updates previous reports on surveillance of CRS in the United States.

Recent declines in CRS rates recorded by NCRSR parallel the decline in overall rubella incidence and, more specifically, in the incidence for persons 15 years of age or older (Figure 1). During 1979-1984, the reported rubella rate among persons in this age group declined 96%, from 4.8 cases/100,000 population to 0.2/100,000. Similarly, 57 confirmed and compatible CRS cases occurred in 1979 and that only two such cases occurred in 1984 (a 96% decline) (Table 4). The number of reported CRS cases declined by 71% from 1983 (seven cases) to 1984 (two cases).§ Two CRS patients born in 1985 have been reported to date. Neither 1985 case was reported until 1986; one CRS patient was diagnosed within the first month of life; the second was not recognized until 8 months of age.

Reported by Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, CDC

*Patients with both defects and laboratory evidence of rubella infection

†Cases that satisfy only the clinical criteria of two complications from A or one from A and one from B, in the absence of laboratory confirmation

§Cases reported to the *MMWR* have been reclassified by date of birth rather than date of report and stratified into confirmed and compatible cases. Annual totals may change as a result of delayed diagnoses and reporting (CDC Rubella and congenital rubella—United States, 1983 *MMWR* 1984, 33:237-42, 247)

TABLE 2. Age distribution of reported rubella cases* and estimated incidence rates† — Illinois, Massachusetts, New York City, 1966-1968,§ 1975-1977,§ and 1982-1984§¶

Age group (yrs.)	1966-1968**			1975-1977			1982-1984			Rate change 1966-1984 (%)
	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	
< 5	1,294	(21.6)	63.3	160	(9.8)	9.8	31	(20.3)	1.9	-97.0
5-9	2,304	(38.5)	101.3	233	(14.2)	11.6	28	(18.3)	1.7	-98.3
10-14	1,020	(17.1)	44.0	229	(13.9)	11.2	15	(9.8)	0.8	-98.2
15-19	759	(12.7)	35.7	634	(38.7)	27.4	11	(7.2)	0.5	-98.6
≥ 20	601	(10.2)	3.7	384	(23.4)	2.3	68	(44.3)	0.4	-89.2
Total	5,978	(100.0)	24.3	1,640	(100.0)	6.7	153	(100.0)	0.6	-97.5

*Patients of unknown age excluded

†Reported cases/100,000 population

§Average annual figure over 3-year period

¶These selected data accurately reflect changes using total U.S. data; 1980 population data used

**Represents prevaccine years

Rubella and Congenital Rubella Syndrome — Continued

Editorial Note: The primary goal of rubella vaccination programs is to prevent congenital rubella infection (CRI).[†] When rubella vaccine was licensed in 1969, the United States adopted a policy of universal immunization of children. The focus of this rubella vaccination strategy was to control rubella in preschool-aged and young school-aged children, the primary reservoirs for rubella transmission. Such a strategy was designed to reduce and even interrupt circulation of the virus, thereby reducing the risk of exposure of susceptible pregnant women, as well as protecting children immediately and subsequently through their childbearing years (1). Accordingly, the primary target group for vaccine was children of both sexes. However, secondary emphasis was placed on also vaccinating susceptible adolescents and adults, especially women. By 1977, vaccination of children 12 months of age and older had resulted in marked declines in reported rubella incidence among children and had interrupted the characteristic 6- to 9-year rubella epidemic cycle; however, this strategy had a minimal effect on rubella incidence among persons 15 years of age and older (Figure 1) in addition, after some initial decreases, reported incidence rates of CRS stabilized (Table 4). Serologic studies of various postpubertal populations in the late 1970s and early 1980s showed that 10%-20% of persons still lacked serologic evidence of immunity to rubella (2).

By 1977, it became clear that the reason for the continued occurrence of rubella among young adults and of CRS was a failure to vaccinate persons at risk. There was no evidence of vaccine failure due to waning vaccine-induced immunity. This potential for continuing rubella transmission among populations of susceptible adults has subsequently been demonstrated

[†]Intrauterine infection with rubella can result in miscarriages, abortions, stillbirths, and CRS in infants.

TABLE 3. Criteria for classifying congenital rubella syndrome (CRS) cases

-
- | | |
|------|--|
| I. | CRS confirmed. Defects present and one or more of the following:
A. Rubella virus isolated.
B. Rubella-specific IgM present.
C. Rubella hemagglutination-inhibition (HI) titer in the infant persisting above and beyond that expected from passive transfer of maternal antibody (i.e., rubella HI titer in the infant which does not fall off at the expected rate of one twofold dilution/month). |
| II. | CRS compatible. Laboratory data insufficient for confirmation and any two complications listed in A or one from A and one from B:
A. Cataracts/congenital glaucoma (either or both count as one), congenital heart disease, loss of hearing, pigmentary retinopathy.
B. Purpura, splenomegaly, jaundice, microcephaly, mental retardation, meningoencephalitis, radiolucent bone disease. |
| III. | CRS possible. Some compatible clinical findings which do not fulfill the criteria for a compatible case. |
| IV. | Congenital rubella infection only. No defects present but laboratory evidence of infection. |
| V. | Stillbirths. Stillbirths which are thought to be secondary to maternal rubella infection. |
| VI. | Not CRS. One or more of any of the following inconsistent laboratory findings in a child without evidence of an immunodeficiency disease:
A. Rubella HI titer absent in a child 24 months of age or younger.
B. Rubella HI titer absent in mother.
C. Rubella HI titer decline in an infant consistent with the normal decline of passively transferred maternal antibody after birth (the expected rate of decline of maternal antibodies is one twofold dilution/month). |
-

Rubella and Congenital Rubella Syndrome — Continued

by outbreaks among military recruits (3), hospital personnel (4), office workers (5-7), college students (8), and prison inmates and staff (9). Beginning in 1977 with the National Childhood Immunization Initiative, and later in conjunction with the Measles Elimination Program, efforts were intensified to vaccinate all children and susceptible postpubertal females. The number of doses of rubella vaccine administered in the public sector to persons 15 years of age or older more than doubled between 1978 and 1984 (10). Among persons 20 years of age or older, an eightfold increase occurred.

The success of these initiatives is now apparent. During 1979-1984, the reported incidence rates of CRS and of rubella among persons 15 years of age or older declined, in parallel, by 96% to all-time low levels. Meanwhile, incidence rates of rubella among children under 15 years of age have continued to decrease. As the highly immune cohorts of young children enter childbearing age, CRS can be expected to disappear from this country.

The present situation, however, is still cause for concern. In 1984, 48% of reported rubella cases occurred among persons 15 years of age or older. Furthermore, there is as yet no evidence from serologic studies that rates of susceptibility to rubella in adults have declined appreciably from prevaccine years (11). These data provide evidence that the continued occurrence of rubella in the childbearing-aged population will mean that potentially preventable CRS cases will continue to occur during the next 10-30 years. These concerns led CDC to announce an initiative in February 1985 to hasten elimination of rubella and CRS by increasing efforts to effectively vaccinate the susceptible childbearing-aged population (12).

Even though reported CRS is now at record low levels in the United States, the reported figure is believed to be an underestimation of the actual total. CDC estimates of CRS incidence

TABLE 4. Incidence rate of congenital rubella syndrome (CRS) reported to the National Congenital Rubella Syndrome Registry (NCRSR)* — United States, 1969-1985†

Year	NCRSR Cases	Incidence rate‡
1969	62	1.72
1970	68	1.82
1971	44	1.24
1972	32	0.98
1973	30	0.96
1974	22	0.70
1975	32	1.02
1976	23	0.73
1977	29	0.87
1978	30	0.90
1979	57	1.63
1980	14	0.39
1981	10	0.28
1982	12	0.33
1983	7	0.19
1984	2	0.05
1985	2	0.05

*Confirmed and compatible cases only, reported by year of birth. Data are provisional because of delayed reporting.

†Excluded is one patient with confirmed CRS born in New York City of a Dominican Republic resident who arrived in the United States 1 month before delivery (not considered U.S.-related).

‡Cases/100,000 live births.

Rubella and Congenital Rubella Syndrome — Continued

rates are derived primarily from the NCRSR reporting system, a passive reporting system. Passive surveillance by its nature results in underreporting of actual disease incidence, and results in selective reporting of infants with severe and obvious CRS (e.g., cardiac or eye defects) that are recognized and reported early in life, while those with mild CRS (e.g., mental or auditory defects) are often not reported until later in life, if at all. As an example of these problems, both reported CRS patients born in 1985 were not reported until 1986, and one of the infants with cataracts and microcephaly was not diagnosed as having CRS until he was referred to a tertiary-care center at 8 months of age. Another limitation of current CRS surveillance is its inability to measure other outcomes of CRI, i.e., miscarriages, induced abortions, or stillbirths. Thus, surveillance of CRS will have to be intensified to monitor any further reduction in morbidity. Current limitations of existing surveillance for CRS underscore the need for all specialists and other individuals at tertiary-care centers who are consulted in the treatment of children with CRS-associated congenital anomalies to continue to actively consider it in the differential diagnosis and to report all suspected cases to their respective local state health departments.

As for all adult immunizations, a multifaceted approach is necessary to enhance rubella immunization levels in the childbearing-aged population. Unique approaches may need to be designed. Eight states still do not require proof of rubella immunity for postpubertal elementary and secondary school students. Since many susceptible persons are no longer in school, school laws alone cannot be used to ensure immunity. One means of reaching this population is to offer rubella vaccine to susceptible postpubertal women whenever they have contact with the health-care delivery system for any reason. This approach should include postpartum vaccination, follow-up vaccination of susceptibles identified through premarital and prenatal screening, and other efforts aimed at delivering vaccine to hard-to-reach populations. The family planning clinic setting is an ideal place to offer vaccine and may represent one of the few situations where hard-to-reach individuals have contact with the health-care delivery system. An analysis of CRS surveillance indicates that one-third to one-half of mothers delivering CRS infants had a previous live birth (73). However, this observation did not apply to mothers 15-19 years of age. These data suggest that both postpartum vaccination and use of rubella vaccine in family planning clinics could have an important effect on the overall occurrence of reported CRS. School-based immunization programs also remain a potentially effective means of vaccinating mothers 15-19 years of age. Requiring proof of immunity to both measles and rubella as a condition for college entry can minimize the risk of rubella outbreaks in this population. Physicians and other health-care personnel must be willing to offer rubella vaccine whenever they encounter a potentially susceptible woman lacking contraindications for vaccination.

References

1. Orenstein WA, Bart KJ, Hinman AR, et al. The opportunity and obligation to eliminate rubella from the United States. *JAMA* 1984;251:1988-94.
2. Bart KJ, Orenstein WA, Preblud SR, Hinman AR. Universal immunization to interrupt rubella. *Rev Infect Dis* 1985;7(suppl 1):S177-S184.
3. Crawford GE, Gremillion DH. Epidemic measles and rubella in Air Force recruits: impact of immunization. *J Infect Dis* 1981;144:403-10.
4. Polk BF, White JA, DeGirolami PC, Modlin JF. An outbreak of rubella among hospital personnel. *N Engl J Med* 1980;303:541-5.
5. CDC. Rubella outbreak in an office building—New Jersey. *MMWR* 1980;29:517-8.
6. CDC. Rubella outbreak among office workers—New York City. *MMWR* 1983;32:349-52.
7. CDC. Rubella outbreak among office workers—New York City. *MMWR* 1985;34:455-9.
8. CDC. Rubella in colleges—United States. *MMWR* 1985;34:228-31.

Rubella and Congenital Rubella Syndrome — Continued

9. CDC. Rubella outbreaks in prisons—New York City, West Virginia, California. *MMWR* 1985;34:615-8.
10. CDC. Unpublished data, Division of Immunization.
11. Witte JJ, Karchmer AW, Case G, et al. Epidemiology of rubella. *Am J Dis Child* 1969;118:107-11.
12. CDC. Elimination of rubella and congenital rubella syndrome—United States. *MMWR* 1985;34:65-6.
13. Preblud SR, Williams NM, Orenstein WO, Bart KJ, Hinman AR. Elimination of congenital rubella infection from the United States (abstract). Program and abstracts of the 113th meeting of the American Public Health Association, Washington, D.C., November 17-21, 1985.

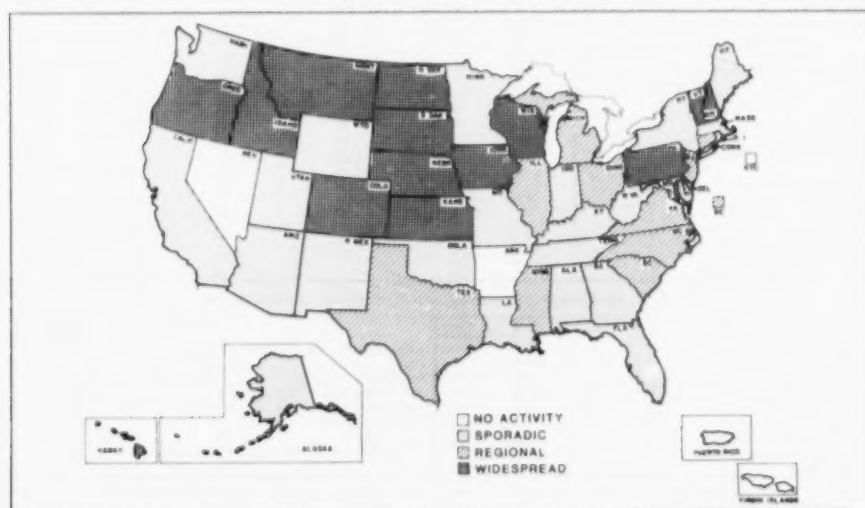
Update: Influenza Activity — United States

Reports of influenza cases from family physicians' practices and of morbidity levels from the states and collaborating diagnostic laboratories indicate that 1985-1986 national influenza activity has peaked in the United States.

Reports of influenza-like illnesses from the practices of sentinel physicians* for the week ending February 19 averaged 11.1 compared with the averages of 10.9 and 11.6 reported for the preceding weeks. Outbreaks of influenza-like illness were reported by 25 states for the week ending March 1, a decrease from the total of 33 states that reported outbreaks for the preceding week. Fourteen states indicated widespread outbreaks (Figure 2); 11 states and the District of Columbia indicated regional outbreaks.

*Cases reported by those members of the American Academy of Family Physicians Research panel who serve as sentinel physicians for influenza.

FIGURE 2. Influenza activity — United States



Influenza - Continued

The numbers of type B virus isolates reported by the collaborating laboratories have peaked. Incomplete totals for the week ending February 22 include 171 type B and 39 type A(H3N2) isolates; 249 type B viruses and 65 type A(H3N2) viruses were reported for the week ending February 15. Overall, 1,538 influenza virus isolates, including 79.3% type B viruses and 20.7% type A(H3N2) viruses, have been reported this season.

The percentage of pneumonia and influenza (P&I) deaths reported from the 121 U.S. cities for the week ending March 1 was 6.3%, the same percentage reported for the preceding week. This is the eighth consecutive week the P&I percentage has exceeded the statistical limit expected in the absence of influenza outbreaks nationwide. Preliminary data for the current season indicate that the age distribution of P&I deaths is similar to that observed for the 1984-1985 influenza season.

(Continued on page 141)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	9th Week Ending			Cumulative: 9th Week Ending		
	Mar 1, 1986	Mar 2, 1985	Median 1981-1985	Mar 1, 1986	Mar 2, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	127	95	N	1,930	973	N
Asplenic meningitis	74	35	74	715	588	729
Encephalitis, Primary (arthropod-borne & unspc)	16	15	15	137	135	135
Gonorrhea	1	1	1	8	19	12
Civilian	16,261	12,994	17,957	134,239	132,542	159,013
Military	202	778	583	2,476	3,226	4,412
Hepatitis	539	412	486	3,878	3,487	3,955
Type A	581	448	438	3,891	3,980	3,779
Type B	72	89	N	482	661	N
Non A, Non B	141	98	161	912	716	1,207
Unspecified	12	11	N	90	110	N
Legionellosis	7	19	7	39	63	41
Leprosy	11	10	12	101	112	112
Malaria	37	62	62	442	174	214
Measles	34	52	N	429	131	N
Total*	3	10	N	13	43	N
Indigenous	75	77	77	533	524	573
Imported	74	77	77	532	524	570
Meningococcal infections	1	-	-	1	-	1
Civilian	67	90	93	451	584	695
Military	40	39	32	331	228	210
Mumps	20	7	36	73	37	160
Pertussis	592	475	566	4,065	4,247	5,274
Rubella (German measles)	5	3	5	33	29	76
Syphilis (Primary & Secondary)	7	9	N	43	71	N
Civilian	461	448	484	2,971	2,873	3,483
Military	-	1	3	11	20	16
Toxic Shock syndrome	2	2	5	33	41	65
Tuberculosis	1	-	-	8	4	10
Typhoid fever	85	72	91	672	681	755
Typhus fever, tick-borne (RMSF)	-	-	-	-	-	-
Rabies, animal	-	-	-	-	-	-

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Upstate N Y 1, Ohio 1)	10
Botulism	3	Plague	-
Foodborne	8	Polio myelitis, Paralytic	-
Infant	-	Psittacosis (Ga 5, Calif 1)	10
Other	-	Rabies, human	-
Brucellosis (Calif 1)	7	Tetanus (Ill 1)	6
Cholera	-	Trichinosis	7
Congenital rubella syndrome	1	Typhus fever, flea-borne (endemic murine)	1
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*Three of the 37 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
March 1, 1986 and March 2, 1985 (9th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
	Cum 1986	1986	Primary Cum 1986	Post-in- fectious Cum 1986	Cum 1986	Cum 1985	A 1986	B 1986	NA,NB 1986	Unspeci- fied 1986	1986	Cum 1986
UNITED STATES	1,930	74	137	8	134,239	132,542	539	581	72	141	12	39
NEW ENGLAND	104	1	7	-	3,255	4,267	4	45	1	7	1	1
Maine	4	-	-	-	149	180	-	1	-	-	-	-
NH	3	-	2	-	99	90	-	-	-	-	-	-
Vt	1	-	-	-	53	40	-	-	-	-	-	-
Mass	62	-	2	-	1,417	1,534	3	33	1	7	-	1
RI	9	1	-	-	283	326	-	2	-	-	1	-
Conn	25	-	1	-	1,254	2,097	1	9	-	-	-	-
MID ATLANTIC	683	8	21	-	23,819	19,310	44	70	6	30	-	4
Upstate N.Y.	49	5	7	-	2,742	2,545	5	18	3	1	-	-
N.Y. City	435	1	7	-	14,322	8,844	1	1	-	27	-	4
N.J.	149	-	2	-	2,520	3,480	8	16	-	1	-	-
Pa.	50	2	5	-	4,235	4,441	30	35	3	1	-	-
E.N. CENTRAL	106	8	24	1	17,703	19,563	33	59	6	7	7	3
Ohio	28	2	7	1	5,015	4,881	9	16	2	1	5	-
Ind.	16	1	1	-	2,675	1,940	3	1	-	5	-	-
Ill.	40	1	1	-	2,580	6,039	15	10	2	-	-	2
Mich.	22	4	14	-	6,167	5,566	6	30	1	1	2	1
Wis.	-	-	1	-	1,266	1,137	-	-	-	-	-	-
W.N. CENTRAL	42	-	1	1	6,442	7,047	7	8	1	-	-	1
Minn.	20	-	-	-	935	1,135	1	5	-	-	-	1
Iowa	3	-	1	-	666	770	1	-	-	-	-	-
Mo.	10	-	-	-	3,111	3,177	2	2	1	-	-	-
N. Dak.	2	-	-	-	68	46	-	-	-	-	-	-
S. Dak.	1	-	-	-	105	136	3	-	-	-	-	-
Nebr.	3	-	-	-	394	645	-	1	-	-	-	-
Kans.	3	-	-	1	1,163	1,138	-	-	-	-	-	-
S. ATLANTIC	235	18	28	6	28,927	28,123	36	79	14	9	2	-
Del.	7	-	2	-	596	568	4	-	-	-	-	-
Md.	26	-	8	-	4,098	4,195	-	5	3	-	-	-
D.C.	21	-	-	-	2,699	2,425	-	-	-	1	-	-
Va.	36	-	12	-	3,057	2,888	-	6	1	-	-	-
W. Va.	-	-	1	-	385	745	-	-	-	-	-	-
N.C.	17	6	4	-	4,963	5,828	1	4	1	1	-	-
S.C.	12	1	-	-	3,346	3,627	2	11	-	1	2	-
Ga.	21	-	-	-	-	-	2	10	-	-	-	-
Fla.	95	11	1	6	9,743	8,247	4	21	1	2	-	-
E.S. CENTRAL	24	7	12	-	12,120	11,489	9	41	1	2	2	-
Ky.	6	2	6	-	1,447	1,313	2	9	-	-	2	-
Tenn.	12	3	1	-	4,822	4,573	2	21	-	-	-	-
Ala.	2	2	5	-	3,255	3,356	4	7	1	-	-	-
Miss.	4	-	-	-	2,596	2,247	1	4	-	2	-	-
W.S. CENTRAL	171	10	8	-	17,885	19,520	69	42	4	28	-	3
Ark.	6	1	-	-	1,576	1,914	-	1	-	-	-	-
La.	27	2	1	-	3,166	4,027	2	9	2	1	-	-
Okla.	2	-	1	-	2,068	2,002	12	3	-	2	-	-
Tex.	136	7	6	-	11,075	11,577	55	29	2	25	-	3
MOUNTAIN	64	2	6	-	3,865	4,356	70	47	4	8	-	4
Mont.	-	-	-	-	112	133	6	2	-	-	-	-
Idaho	1	-	-	-	122	140	3	-	-	-	-	-
Wyo.	2	-	2	-	94	127	1	2	-	-	-	-
Colo.	35	-	-	-	1,122	1,233	3	7	-	-	-	-
N. Mex.	4	-	-	-	480	529	23	13	1	1	-	1
Ariz.	11	2	2	-	1,015	1,306	26	13	1	1	-	-
Utah	5	-	1	-	194	196	3	2	2	5	-	1
Nev.	6	-	1	-	726	692	5	8	-	1	-	2
PACIFIC	501	20	30	-	20,223	18,867	267	190	35	50	-	23
Wash.	21	2	2	-	1,522	1,535	24	16	3	4	-	1
Oreg.	10	-	-	-	774	1,125	44	15	9	-	-	-
Calif.	462	11	26	-	17,095	15,448	198	155	2	46	-	21
Alaska	4	-	2	-	625	463	-	3	-	-	-	-
Hawaii	4	7	-	-	207	296	1	1	-	-	-	1
Guam	-	-	-	-	-	23	-	-	-	-	-	-
P.R.	16	2	2	-	380	724	2	6	-	1	-	-
V.I.	-	-	-	-	38	66	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	3	146	7	-	-	-	-	-
Amer. Samoa	-	-	-	-	5	-	2	-	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 1, 1986 and March 2, 1985 (9th Week)

Reporting Area	Measles (Rubeola)		Measles (Rubeola)		Measles (Rubeola)		Meningococcal Infections	Mumps		Pertussis			Rubella			
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985		Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	101	34	429	3	13	174	533	67	451	40	331	228	20	73	37	
NEW ENGLAND	5	3	8	-	-	-	43	-	7	-	24	11	-	-	2	
Maine	-	-	-	-	-	-	10	-	-	-	2	2	-	-	-	
NH	-	-	-	-	-	-	1	-	4	-	7	5	-	-	1	
Vt	-	-	-	-	-	-	7	-	-	-	1	1	-	-	-	
Mass	3	3	8	-	-	-	8	-	-	-	8	2	-	-	1	
Ri	1	-	-	-	-	-	3	-	3	-	1	1	-	-	-	
Conn	1	-	-	-	-	-	14	-	-	-	5	-	-	-	-	
MID ATLANTIC	16	5	180	-	2	8	103	5	30	14	54	41	-	17	8	
Upstate N.Y.	-	-	-	-	2	3	24	1	9	5	36	20	-	12	1	
N.Y. City	6	5	17	-	-	5	26	1	1	5	5	7	-	5	6	
N.J.	2	-	163	-	-	-	18	-	12	-	-	-	-	-	1	
Pa.	8	-	-	-	-	-	35	3	8	4	13	14	-	-	-	
E.N. CENTRAL	3	-	27	-	-	63	63	43	215	2	72	49	-	1	4	
Ohio	1	-	-	-	-	10	28	2	36	-	38	8	-	-	-	
Ind.	-	-	-	-	-	-	9	1	8	-	9	11	-	-	-	
Ill.	1	-	16	-	-	4	14	39	120	-	2	9	-	-	-	
Mich.	1	-	-	-	-	18	12	1	30	2	9	4	-	-	4	
Wis.	-	-	11	-	-	31	-	-	21	-	14	17	-	1	-	
W.N. CENTRAL	2	2	49	-	-	-	23	-	15	2	19	22	-	2	4	
Minn.	1	-	-	-	-	-	6	-	-	1	11	10	-	-	-	
Iowa	1	-	-	-	-	-	4	-	5	-	2	1	-	-	-	
Mo.	-	-	-	-	-	-	10	-	3	1	2	3	-	1	-	
N. Dak.	-	-	-	-	-	-	-	-	-	-	1	3	-	-	-	
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nebr.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
Kans.	-	2	49	-	-	-	2	-	6	-	3	4	-	1	4	
S. ATLANTIC	16	10	54	-	1	3	106	2	45	15	67	41	1	6	1	
Del.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Md.	3	1	1	-	-	1	11	-	3	3	16	7	-	-	-	
D.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Va.	5	-	-	-	-	-	8	-	5	-	6	1	-	-	-	
W. Va.	-	-	-	-	-	-	3	1	17	1	1	-	-	-	-	
N.C.	2	-	-	-	-	-	14	-	4	1	11	6	-	-	-	
S.C.	-	6	43	-	-	-	18	1	4	1	2	-	-	-	-	
Ga.	2	-	-	-	-	-	14	-	3	9	26	16	-	-	1	
Fla.	4	3	10	-	1	1	36	-	9	-	5	11	1	6	-	
E.S. CENTRAL	2	-	-	-	-	-	27	-	5	3	11	3	-	1	1	
Ky.	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1	
Tenn.	-	-	-	-	-	-	11	-	1	-	2	1	-	-	-	
Ala.	-	-	-	-	-	-	8	-	3	8	1	-	-	-	-	
Miss.	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	
W.S. CENTRAL	5	5	26	3	4	2	26	5	31	-	15	13	4	10	4	
Ark.	-	-	21	-	-	-	-	-	2	-	-	7	-	-	-	
La.	1	-	-	-	-	-	3	-	-	-	1	-	-	-	1	
Okla.	1	-	-	-	-	-	5	N	N	-	14	6	-	-	-	
Tex.	3	5	5	3†	4	2	18	5	29	-	-	-	4	10	3	
MOUNTAIN	4	4	32	-	4	71	26	3	54	-	33	9	-	-	1	
Mont.	-	-	-	-	-	71	4	1	2	-	-	-	-	-	-	
Idaho	-	-	-	-	-	-	1	-	-	-	7	-	-	-	-	
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Colo.	1	-	-	-	2	-	3	1	4	-	9	3	-	-	-	
N. Mex.	-	-	13	-	2	-	4	N	N	-	6	2	-	-	-	
N. Ariz.	2	4	19	-	-	-	8	1	42	-	10	2	-	-	-	
Utah	-	-	-	-	-	-	2	-	1	-	1	2	-	-	1	
Nev.	1	-	-	-	-	-	2	-	3	-	-	-	-	-	-	
PACIFIC	48	5	53	-	2	27	116	9	49	4	36	39	15	36	12	
Wash.	5	-	18	-	1	1	16	1	4	-	14	3	-	-	-	
Oreg.	6	-	-	-	-	-	11	N	N	-	2	5	-	-	-	
Calif.	37	3	30	-	1	22	84	8	40	4	17	29	15	36	10	
Alaska	-	-	-	-	-	-	5	-	2	-	1	-	-	-	-	
Hawaii	-	2	5	-	-	4	-	-	3	-	2	2	-	-	1	
Guam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P.R.	1	-	-	-	-	10	-	1	1	-	-	-	-	-	1	
V.I.	-	-	-	-	-	33	1	3	11	-	2	1	-	-	4	
Pac. Trust Terr.	-	-	-	-	-	6	-	1	3	-	-	-	-	-	-	
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

*For measles only, imported cases includes both out-of-state and international importations

N Not notifiable U Unavailable [†]International [§]Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 1, 1986 and March 2, 1985 (9th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	4 065	4 247	7	2 971	2 873	11	33	8	672
NEW ENGLAND	95	95	-	91	109	-	1	1	-
Maine	4	3	-	12	5	-	-	-	-
NH	4	2	-	2	6	-	-	-	-
Vt	4	-	-	5	-	-	-	-	-
Mass	52	50	-	42	66	-	-	-	-
RI	5	2	-	4	13	-	1	1	-
Conn	26	38	-	26	19	-	-	-	-
MID ATLANTIC	561	561	-	574	602	-	3	-	81
Upstate NY	29	29	-	91	78	-	1	-	12
N Y City	336	371	-	270	343	-	2	-	-
N J	125	107	-	106	43	-	-	-	-
Pa	71	54	-	107	138	-	-	-	69
E N CENTRAL	86	223	1	411	369	1	3	-	7
Ohio	17	16	1	58	75	1	-	-	-
Ind	24	17	-	41	44	-	-	-	1
Ill	18	126	-	192	163	-	-	-	-
Mich	16	53	-	94	66	-	3	-	2
Wis	11	11	-	26	21	-	-	-	4
W N CENTRAL	42	54	-	65	71	4	2	-	72
Minn	6	18	-	13	11	-	1	-	-
Iowa	4	9	-	9	13	1	-	-	-
Mo	20	15	-	31	27	3	1	-	24
N Dak	2	-	-	3	2	-	-	-	7
S Dak	-	3	-	2	4	-	-	-	28
Nebr	7	1	-	3	4	-	-	-	13
Kans	3	8	-	4	10	-	-	-	-
S ATLANTIC	1 043	1 085	1	569	558	2	2	3	166
Del	5	6	-	6	6	-	-	-	-
Md	78	89	-	35	53	1	-	-	-
D C	63	55	-	29	28	-	-	-	116
Va	82	56	-	36	27	-	-	-	-
W Va	4	1	-	23	13	-	-	-	15
N C	104	128	1	79	62	-	2	2	3
S C	141	135	-	77	79	-	-	1	4
Ga	-	-	-	59	81	1	-	-	23
Fla	565	615	-	225	209	-	-	-	5
E S CENTRAL	311	393	-	282	242	2	-	2	29
Ky	21	13	-	69	55	1	-	1	6
Tenn	150	87	-	80	63	1	-	-	12
Ala	96	140	-	107	96	-	-	1	11
Miss	44	153	-	26	28	-	-	-	-
W S CENTRAL	948	1 055	3	361	289	2	1	2	64
Ark	44	64	-	36	19	2	-	-	10
La	154	186	-	107	58	-	-	-	-
Okla	33	40	3	29	36	-	-	-	7
Tex	717	765	-	189	176	-	1	2	47
MOUNTAIN	121	147	-	62	42	-	1	-	145
Mont	2	1	-	2	5	-	-	-	59
Idaho	1	2	-	4	1	-	-	-	-
Wy	-	4	-	-	1	-	-	-	60
Colo	32	34	-	-	-	-	-	-	-
N Mex	17	17	-	17	7	-	-	-	2
Ariz	54	81	-	29	23	-	-	-	24
Utah	3	1	-	-	2	-	1	-	-
Nev	12	7	-	10	3	-	-	-	-
PACIFIC	858	634	2	556	591	-	20	-	108
Wash	16	25	-	31	22	-	2	-	-
Oreg	22	20	-	25	19	-	-	-	-
Calif	812	579	2	461	479	-	16	-	105
Alaska	-	-	-	5	37	-	-	-	3
Hawaii	8	10	-	34	34	-	-	-	-
Guam	-	2	-	-	5	-	-	-	-
P R	146	165	-	48	51	-	-	-	6
V I	-	-	-	-	1	-	-	-	-
Pac Trust Terr	-	-	-	2	16	-	-	-	-
Amer Samoa	-	13	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 1, 1986 (9th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	766	558	138	36	9	23	80	S. ATLANTIC	1,271	816	235	89	31	37	94
Boston, Mass.	176	118	31	11	5	11	26	Atlanta, Ga.	215	142	49	20	3	1	7
Bridgeport, Conn.	50	35	11	3	-	1	6	Baltimore, Md.	109	76	23	8	2	-	7
Cambridge, Mass.	25	24	1	-	-	-	3	Charlotte, N.C.	94	63	21	3	4	3	11
Fall River, Mass.	31	22	6	3	-	-	-	Jacksonville, Fla.	116	68	34	5	5	4	12
Hartford, Conn.	85	60	18	4	1	2	11	Miami, Fla.	159	80	53	13	4	9	5
Lowell, Mass.	37	25	10	2	-	-	2	Norfolk, Va.	72	44	21	4	2	1	7
Lynn, Mass.	24	18	5	1	-	-	-	Richmond, Va.	95	56	27	6	2	4	15
New Bedford, Mass.	25	20	3	2	-	-	1	Savannah, Ga.	24	13	4	2	3	2	1
New Haven, Conn.	57	38	12	4	1	2	-	St. Petersburg, Fla.	142	116	20	-	2	4	10
Providence, R.I.	77	61	9	2	-	5	10	Tampa, Fla.	75	44	17	8	-	3	8
Somerville, Mass.	9	7	1	-	-	-	-	Washington, D.C.	135	95	24	18	2	6	9
Springfield, Mass.	65	46	15	3	-	-	4	Wilmington, Del.	35	29	2	2	2	-	2
Waterbury, Conn.	40	30	6	2	1	1	10								
Worcester, Mass.	66	54	10	1	1	-	7								
MID ATLANTIC	3,401	2,290	673	279	75	84	175	E.S. CENTRAL	944	625	203	68	24	24	57
Albany, N.Y.	66	46	10	2	4	4	3	Birmingham, Ala.	157	98	26	14	4	15	5
Allentown, Pa.	20	16	2	-	-	-	-	Chattanooga, Tenn.	81	55	18	7	1	-	5
Buffalo, N.Y.	151	105	31	6	6	3	15	Knoxville, Tenn.	105	73	21	7	4	-	11
Camden, N.J.	49	32	8	4	-	5	1	Louisville, Ky.	87	53	24	7	1	2	7
Elizabeth, N.J.	26	21	3	2	-	-	1	Memphis, Tenn.	201	136	45	14	5	1	17
Erie, Pa.†	41	26	9	3	2	1	2	Mobile, Ala.	82	55	20	5	1	1	8
Jersey City, N.J.	42	29	9	3	1	-	-	Montgomery, Ala.	69	53	12	3	1	-	9
N.Y. City, N.Y.	1,780	1,137	367	195	42	39	68	Nashville, Tenn.	162	102	37	11	8	4	11
Newark, N.J.	61	32	16	10	2	1	3								
Paterson, N.J.	40	27	7	5	1	-	4	W.S. CENTRAL	1,538	1,060	264	95	52	67	84
Philadelphia, Pa.	600	402	133	30	12	23	36	Austin, Tex.	60	41	8	7	2	2	5
Pittsburgh, Pa.†	100	74	21	3	-	2	5	Baton Rouge, La.	52	29	12	3	2	6	3
Reading, Pa.	36	33	1	2	-	-	5	Corpus Christi, Tex.	39	24	9	3	2	1	1
Rochester, N.Y.	137	113	15	4	2	3	18	Dallas, Tex.	266	159	66	22	7	12	14
Schenectady, N.Y.	35	27	5	2	1	-	2	El Paso, Tex.	70	48	13	4	1	4	2
Scranton, Pa.†	32	23	8	1	-	-	3	Fort Worth, Tex.	135	89	27	8	6	5	12
Syracuse, N.Y.	82	65	15	1	-	1	8	Houston, Tex. §	328	290	7	6	12	13	6
Trenton, N.J.	44	34	8	2	-	-	-	Little Rock, Ark.	73	42	14	5	4	8	9
Utica, N.Y.	20	18	1	-	-	1	-	New Orleans, La.	133	82	30	17	3	1	1
Yonkers, N.Y.	39	28	4	4	2	1	1	San Antonio, Tex.	208	131	46	11	11	9	18
								Shreveport, La.	41	29	9	3	-	-	2
								Tulsa, Okla.	133	96	23	6	2	6	12
E.N. CENTRAL	2,508	1,775	442	132	66	92	145								
Akron, Ohio	78	56	13	4	1	4	4	MOUNTAIN	798	547	137	56	30	28	57
Canton, Ohio	31	23	7	-	1	-	4	Albuquerque, N.Mex.	106	65	17	12	10	2	9
Chicago, Ill. §	553	462	11	26	16	37	16	Colorado Springs, Colo.	48	36	6	5	-	1	10
Cincinnati, Ohio	160	109	38	12	1	-	18	Denver, Colo.	124	83	23	3	4	11	7
Cleveland, Ohio	201	125	55	12	2	7	6	Las Vegas, Nev.	94	63	20	6	3	2	7
Columbus, Ohio	140	91	30	5	4	10	7	Ogden, Utah	20	17	3	-	-	-	5
Dayton, Ohio	105	70	25	5	2	3	2	Phoenix, Ariz.	192	129	39	9	6	9	5
Detroit, Mich.	329	196	80	32	15	6	13	Pueblo, Colo.	37	25	8	2	2	-	6
Evansville, Ind.	50	42	6	1	1	-	1	Salt Lake City, Utah	49	33	7	6	2	1	1
Fort Wayne, Ind.	80	59	13	3	4	1	4	Tucson, Ariz.	128	96	14	13	3	2	7
Gary, Ind.	19	9	4	1	3	2	-								
Grand Rapids, Mich.	63	50	8	2	1	2	15	PACIFIC	2,252	1,524	397	185	77	60	147
Indianapolis, Ind.	188	114	49	12	8	5	5	Berkeley, Calif.	24	16	6	1	-	1	1
Madison, Wis.	40	23	10	2	3	3	-	Fresno, Calif.	94	66	16	5	5	2	14
Milwaukee, Wis.	132	91	29	6	1	5	10	Glendale, Calif.	42	30	6	6	-	-	1
Peoria, Ill.	48	35	10	-	2	1	8	Honolulu, Hawaii	74	52	11	4	3	4	7
Rockford, Ill.	42	26	14	1	1	-	5	Long Beach, Calif.	89	61	18	5	1	4	14
South Bend, Ind.	62	53	7	1	1	-	10	Los Angeles, Calif.	726	502	124	57	24	10	23
Toledo, Ohio	106	80	18	4	-	4	3	Oakland, Calif.	96	64	15	9	3	5	6
Youngstown, Ohio	81	61	15	3	-	2	9	Pasadena, Calif. §	31	31	-	-	-	-	1
								Portland, Ore.	139	93	22	11	5	8	9
								Sacramento, Calif.	128	89	17	14	5	3	15
W.N. CENTRAL	838	595	157	30	27	29	65	San Diego, Calif.	144	101	25	10	4	4	17
Des Moines, Iowa	71	54	10	2	1	4	7	San Francisco, Calif.	185	99	40	35	8	3	5
Duluth, Minn.	41	34	4	1	-	2	5	San Jose, Calif.	187	123	40	14	6	4	18
Kansas City, Kans.	64	32	7	2	1	2	2	Seattle, Wash.	177	116	39	9	9	4	5
Kansas City, Mo.	142	92	40	9	-	1	10	Spokane, Wash.	68	46	9	4	4	5	10
Lincoln, Nebr.	33	25	5	2	1	-	4	Tacoma, Wash.	48	35	9	1	-	3	1
Minneapolis, Minn.	102	67	17	4	6	8	5								
Omaha, Nebr.	106	80	21	-	3	2	13								
St. Louis, Mo.	141	100	19	7	8	7	9								
St. Paul, Minn.	79	55	17	2	3	2	3								
Wichita, Kans.	79	56	17	1	4	1	7								
								TOTAL	14,316††	9,790	2,706	972	391	444	904

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Influenza — Continued

Many outbreaks of influenza in schools have been associated with type B virus, and a mixed outbreak of types A(H3N2) and B viruses in a North Carolina college was reported earlier (1). Laboratory evidence of a college outbreak associated primarily with type A(H3N2) has now been reported from Alabama; type A(H3N2) influenza viruses were isolated from eight of 10 ill students tested at Samford University's student health clinic in Birmingham during an outbreak that began in late January and continued into mid-February.

Reported by J Shaw, MPA, WJ Alexander, MD, Jefferson County Health Dept, B Edwards, Birmingham Br Laboratory, Alabama State Dept of Public Health; State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: As the data above demonstrate, influenza activity is now peaking or declining in most regions of the country. Reports of P&I-associated deaths typically lag several weeks behind reports of influenza illness and viral diagnostic results. Consequently, the P&I percentages reported from the 121 cities may continue near the current levels in the near future while other indices of influenza activity decline.

Reference

1. CDC. Update: influenza activity—United States. MMWR 1986;35:65-6.

*Epidemiologic Notes and Reports****Aedes albopictus* Introduction — Texas**

On August 2, 1985, the Harris County Mosquito Control District in Houston, Texas, discovered that *Aedes albopictus*, a mosquito of Asian origin, was established in Harris County (1); the identity of the species was confirmed by the U.S. National Museum. In a preliminary survey, *A. albopictus* larvae were collected at 55.8% of 163 sites inspected, suggesting the original introduction occurred some time ago. The species was most prevalent on the east side of Harris County, where the Houston Ship Channel, Ellington Field (U.S. Air Force and National Aeronautics and Space Administration), Hobby Airport, and Houston Intercontinental Airport are located.

The full distribution of *A. albopictus* in the Houston-Galveston area is unknown because surveys were conducted only to the Harris County line. It may extend to several adjoining counties.

Reported by RE Barnett, Harris County Mosquito Control District, BL Davis, Environmental and Consumer Health Protection, Texas Dept of Health; Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: *A. albopictus* is a vector for dengue (2) and other arboviral diseases of humans and is susceptible to a variety of arboviruses in the laboratory (3). *A. albopictus* specimens have been collected or intercepted in the contiguous United States on three previous occasions, but this is the first report that breeding populations are established in this

Aedes albopictus — Continued

hemisphere. In a previous report identifying *A. albopictus* in Memphis, Tennessee (4), the source of introduction was presumed to be cargo from international shipping. However, the Memphis collection may have originated in Houston. With the discovery of an established focus of the mosquito in Texas, it is important to determine whether the species has spread to other areas and states.

In Asia, *A. albopictus* is primarily a woodland species that has become adapted to the urban environment. It breeds in tree holes, bamboo stumps, coconut husks, and other natural containers, as well as in tires and other discarded water-holding containers. It is not as strongly dependent on humans as *A. aegypti*, and it could colonize tree holes and other similar habitats in the southeastern United States. Control of this species in such natural habitats would be difficult. Competition from *A. aegypti* and from native tree-hole *Aedes* species may help retard the spread of *A. albopictus* (5,6). As in Hawaii (7), however, *A. albopictus* appears to have replaced *A. aegypti*. This species has apparently been established in Hawaii for a long period, but Hawaii appears to be free of dengue infections.

In Asia, *A. albopictus* extends as far north as Beijing, China (4), and Sendai, Japan (8). This is the approximate latitude of Philadelphia, Pennsylvania, and Denver, Colorado, well north of the distribution of the other major dengue vector, *A. aegypti*. Although U.S. dengue epidemics have occurred principally in the Gulf Coast states, a major *A. aegypti*-transmitted dengue epidemic occurred in Philadelphia in the late 18th century (9), well north of the present distribution of *A. aegypti*.

The efficiency of the Houston *A. albopictus* population in transmitting dengue is unknown. The susceptibility of native populations of this species is known to vary from 8% to 46% (10).

In response to the introduction of *A. albopictus*, CDC has notified appropriate state, federal, and international agencies; has modified and intensified an ongoing surveillance program in the southeastern United States to determine the current distribution of *A. albopictus*; and is preparing training materials on the biology and taxonomy of the species. Meetings are planned to involve CDC, state directors of public health, and other key personnel in appropriate regional areas to develop surveillance and control strategies.

References

1. Sprenger D, Wuithiranyagool T. The discovery and distribution of *Aedes albopictus* (Skuse) in Harris County, Texas. *J Am Mosq Contr Assoc* (in press).
2. Russell PK, Gould DJ, Yuill TM, Nisalak Y, Winter PE. Recovery of dengue-4 viruses from mosquito vectors and patients during an epidemic of dengue hemorrhagic fever. *Am J Trop Med Hyg* 1969; 18:580-3.
3. Tesh RB. Experimental studies on the transovarial transmission of Kunjin and San Angelo viruses in mosquitoes. *Am J Trop Med Hyg* 1980; 29:657-66.
4. Reiter P, Darsie RF Jr. *Aedes albopictus* in Memphis, Tennessee (USA): an achievement of modern transportation? *Mosq News* 1984; 44:396-9.
5. Gilotra SK, Rozeboom LE, Bhattacharya NC. Observations on possible competitive displacement between populations of *Aedes aegypti* Linnaeus and *Aedes albopictus* Skuse in Calcutta. *Bull WHO* 1967; 37:437-46.
6. Moore CG, Fisher BR. Competition in mosquitoes. Density and species ratio effects on growth, mortality, fecundity, and production of growth retardant. *Ann Entomol Soc Am* 1969; 62:1325-31.
7. Usinger RL. Entomological phases of the recent dengue epidemic in Honolulu. *Public Health Rep* 1944; 59:423-30.
8. Mori A, Wada Y. The seasonal abundance of *Aedes albopictus* in Nagasaki. *Trop Med* 1978; 20:29-37.
9. Anonymous. Dengue. Off Res Report Publ Response, National Institute of Allergy and Infectious Diseases, National Institutes of Health, October 1977.
10. Gubler DJ, Rosen L. Variation among geographic strains of *Aedes albopictus* in susceptibility to infection with dengue viruses. *Am J Trop Med Hyg* 1976; 25:318-25.

Toxic Shock Syndrome Associated with Influenza — Minnesota

During February 1986, the Minnesota Department of Health (MDH) identified two cases of toxic shock syndrome (TSS) following influenza infection. Both patients were male, 15 and 16 years of age. Both met the CDC case definition as confirmed TSS cases. Both had laboratory confirmation of influenza B infection. One patient died. In each, an infiltrate was noted on chest x-ray; *Staphylococcus aureus* was isolated from respiratory secretions; one strain produced TSS toxin-1, and the other was positive for staphylococcal enterotoxin B.

After report of the first case, to identify other potential cases of TSS following influenza-like illness, the MDH conducted initial surveillance by contacting major pediatric hospitals and trauma centers in the state and infectious disease specialists in the Twin Cities (Minneapolis-St. Paul) metropolitan area. The MDH surveillance case definition included the presence of an antecedent respiratory illness, followed by hypotension (systolic blood pressure 90 mm/Hg or lower), fever (38.8 C [102 F]), and negative blood cultures. This led to identification of the second confirmed TSS case. Four other patients with probable TSS following influenza-like illnesses were identified. All four of the patients were hospitalized with severe shock, fever, and multisystem involvement. None had observed erythoderma, but three of the four desquamated. The fourth patient died 3 days after admission. These cases are currently under investigation. The MDH is maintaining surveillance to identify additional cases.

Reported by P Bitterman, MD, University of Minnesota Hospitals, G Peterson, MD, Hennepin County Medical Examiner's Office, P Schlievert, PhD, University of Minnesota, G Lehman, MD, C Schrock, MD, North Memorial Medical Center, Robbinsdale, MJ Connolly, MD, St. Joseph's Hospital, J Flink, MD, United Hospitals, G Kravitz, MD, St. Joseph's Hospital and St. John's Hospital, S Leonard, MD, Children's Hospital, St. Paul, M Osterholm, PhD, State Epidemiologist, Minnesota Dept of Health; Div of Field Svcs, Epidemiology Program Office, CDC.

Editorial Note: National surveillance of influenza indicates this influenza season has a high level of activity, which increases the chances of detecting rare sequelae of influenza infections. The cases described above and 14 additional cases reported to CDC of profound hypotension in previously healthy persons following influenza-like illness warrant investigation to clarify the pathogenesis of these unusual cases and to confirm the relationship to influenza infection.

In the patients reported to CDC, the etiology of the rapidly developing, sometimes refractory, hypotension is under investigation. Blood cultures have been negative, and in most, severe pneumonia with consolidation has not been a prominent feature. The differential diagnosis of sudden shock in this clinical setting includes myocarditis, TSS, and septic shock. The differentiation of these illnesses can be difficult, often requiring hemodynamic monitoring, serologic testing, and cultures from appropriate clinical specimens. Myocarditis has been described as a complication of influenza infections (1,2), although documentation can be difficult. The TSS diagnosis is based on a clinical case definition (3), but the rash is not always apparent and may be overlooked.

Staphylococcus aureus pneumonia following influenza has been well documented (4,5). The occurrence of a toxic-shock-like syndrome after antecedent influenza is consistent with this pattern (6), as TSS is caused by toxin-producing *S. aureus* strains.

Physicians who have seen patients with severe shock following influenza-like illness in previously healthy individuals are encouraged to report such cases through their local/state health departments to the Meningitis and Special Pathogens Branch, Division of Bacterial Diseases, Center for Infectious Diseases, CDC, Atlanta, Georgia 30333; telephone (404) 329-3687. Consultation is available regarding the collection of clinical information and laboratory specimens that may help define the etiology of these illnesses.

Toxic Shock Syndrome — Continued

Reported by Meningitis and Special Pathogens Br, Div of Bacterial Diseases, Epidemiology Office, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

References

1. Finland M, Parker F, Barnes MW, Jolitte LS. Acute myocarditis in influenza A infections. Two cases of non-bacterial myocarditis with isolation of virus from the lungs. *Am J Med Sci* 1945;209:455-68.
2. Adams CW. Postviral myopericarditis associated with influenza virus. Report of eight cases. *Am J Cardiol* 1959;4:56-67.
3. Reingold AL, Hargrett NT, Shands KN, et al. Toxic shock syndrome surveillance in the United States, 1980 to 1981. *Ann Intern Med* 1982;96:875-80.
4. Martin LM, Kunin CM, Gottlieb LS, et al. Asian influenza A in Boston, 1957-1958 II. Severe staphylococcal pneumonia complicating influenza. *Arch Intern Med* 1959;103:532-42.
5. Schwarzmans SW, Adler JL, Sullivan RJ Jr, Marine WM. Bacterial pneumonia during the Hong Kong influenza epidemic of 1968-1969. Experience in a city-county hospital. *Arch Intern Med* 1971;127:1037-41.
6. Langmuir AD, Worthen TD, Solomon J, Ray CG, Petersen E. The Thucydides syndrome. *N Engl J Med* 1985;313:1027-30.

*Notice to Readers***Update: *Haemophilus influenzae* b Polysaccharide Vaccine**

Since the licensure of the first polysaccharide vaccine against *Haemophilus influenzae* b (Hib) in April 1985, over 3 million U.S. children have been immunized against this bacterial disease. The vaccine is recommended for all children at the age of 24 months, and as early as 18 months of age for children at highest risk of Hib disease (7). Currently, three manufacturers are licensed to produce the vaccine (Praxis: b-Capsa-1[®]; Lederle: Hib-immune[®]; and Connaught: Hibvax[®]).

As part of the continuing evaluation of the vaccine, CDC, the U.S. Food and Drug Administration (FDA), and the vaccine manufacturers are collaborating in gathering information on children who have developed invasive Hib disease after vaccination. As with any vaccine, a certain number of cases of disease may be expected to occur among vaccinated persons.

To ensure a more complete ascertainment of cases, practitioners and health departments are requested to report all cases of Hib disease (e.g., meningitis, bacteremia, epiglottitis) occurring after vaccination. Cases from 1985, as well as current cases, are solicited; complete case ascertainment for this entire time is important for the most accurate interpretation of these reports. Reports can be made directly to the manufacturers^{*}; by sending Form 1639 "Adverse Reaction Report," to FDA (the form is available by calling FDA at 301-443-4580); or by writing or telephoning the Meningitis and Special Pathogens Branch, Division of Bacterial

^{*}Manufacturers' addresses and telephone numbers are as follows. Mead-Johnson Nutritional Division, Evansville, Indiana 47721 (distributors of the Praxis vaccine), telephone (812) 429-7480. Lederle Laboratories, Pearl River, New York 10965, telephone (914) 735-5000. Connaught Laboratories, Inc., Swiftwater, Pennsylvania 18370, telephone (717) 839-7187.

Haemophilus influenzae Vaccine — Continued

Diseases, Center for Infectious Diseases, CDC, Atlanta, Georgia 30333; telephone (404) 329-3687.

In addition to this request for information on Hib cases, it is also important to report any serious adverse events that occur within 28 days of receipt of vaccine. Such events occurring among recipients of Hib vaccine purchased with public funds should be reported to the appropriate city or state health department, which will complete an investigation and send a report to CDC. Adverse events occurring among recipients of privately purchased Hib vaccine should be reported directly to the manufacturers or to FDA (Form 1639).

Reference

- 1 ACIP. Polysaccharide vaccine for prevention of *Haemophilus influenzae* type b disease. MMWR 1985;34:201-5.

International Notes**Quarantine Measures**

The following changes should be made in *Health Information for International Travel 1985*. The situation as of January 1, 1986:

AUSTRALIA

On page 12, delete Note. Insert: Note: Australia is not bound by the International Health Regulations. All persons over 1 year of age arriving in Australia and who have within the previous 6 days been in any part of Burkina Faso, Gambia, Nigeria, or Zaire or in a yellow fever-infected area of Bolivia, Brazil, Colombia, Ecuador, Peru, or Sudan may be detained in quarantine if they do not have a valid international yellow fever vaccination certificate.

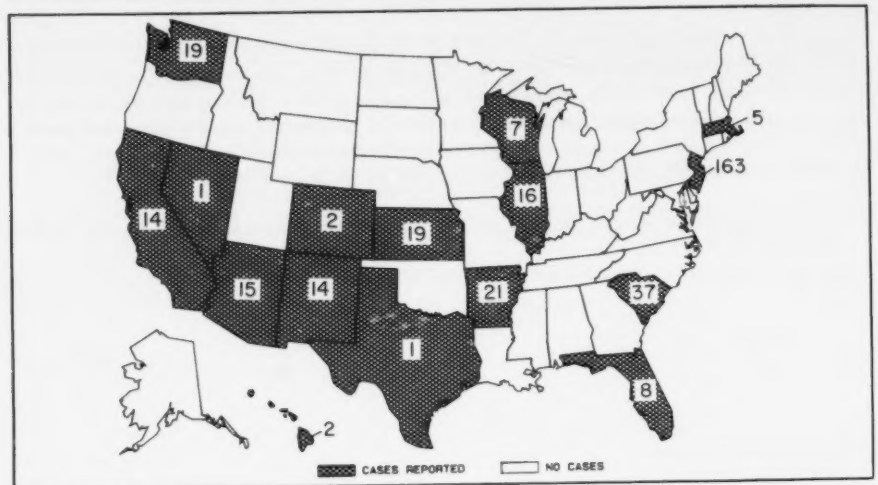
CHRISTMAS ISLAND

On page 19, delete Note. Insert: Note: Christmas Island is not bound by the International Health Regulations. All persons over 1 year of age arriving in Christmas Island and who have within the previous 6 days been in any part of Burkina Faso, Gambia, Nigeria, or Zaire or in a yellow fever-infected area of Bolivia, Brazil, Colombia, Ecuador, Peru, or Sudan may be detained in quarantine if they do not have a valid international yellow fever vaccination certificate.

PANAMA

Yellow Fever — On pages 9 and 42, delete Bocas del Toro.

FIGURE I. Reported measles cases — United States, weeks 5-8, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21044 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAROOON DR 376 F
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

March 14, 1986 / Vol. 35 / No. 10

- 149 National Poison Prevention Week: 25th Anniversary Observance
- 152 Additional Recommendations to Reduce Sexual and Drug Abuse-Related Transmission of HTLV-III/LAV
- 155 Report of the Recommendations of the 1985 DES Task Force of DHHS
- 162 Respiratory Syncytial Virus — Oklahoma
- 165 Agranulocytosis Associated with the Use of Amodiaquine for Malaria Prophylaxis
- 166 Update: Influenza Activity — United States

Perspectives in Disease Prevention and Health Promotion

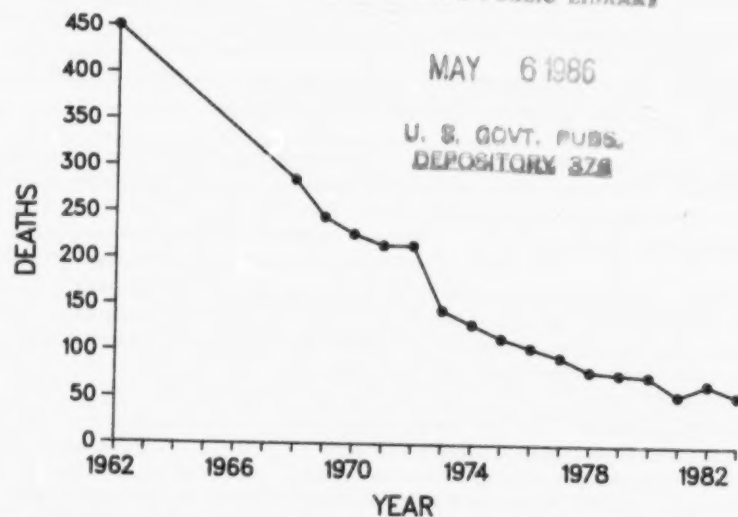
National Poison Prevention Week: 25th Anniversary Observance

The number of poison-related deaths among children under 5 years of age decreased from approximately 450 in 1961 to 55 in 1983, an 88% decline (Figure 1) (1,2). This decrease is due in part to increased awareness concerning poisons, facilitated in 1961 by the passage of Public Law 87-319 (75 Stat. 681), which designated the third week of March as National Poison Prevention Week (NPPW). March 16-22, 1986, marks the 25th anniversary of NPPW.

BACKGROUND

Early Awareness of the Poison Problem. In 1927, Congress passed the Caustic Poisons Act, which applied to approximately 12 acids and alkalies used in household products. The Act required a warning on packages of household lye used to make soap. Each year, both the

FIGURE 1. Deaths among children under 5 years of age involving household chemicals and medicines — United States, 1962-1983.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Poison Prevention Week — Continued

chemical's resemblance to sugar and its users' carelessness in storing the lye caused thousands of young children to suffer chemical burns; some were fatal.

The Act was widely complied with and required minimal enforcement. However, as new products increased, the number of unintentional ingestions increased, so that by the 1950s, physicians considered poisonings by common household chemicals and medicines the leading cause of injuries to children under 5 years of age (3). The U.S. Public Health Service (PHS) National Health Survey estimated that each year 500,000 unintentional ingestions of toxic and potentially toxic substances occurred among young children; many pediatricians and public health officials estimated the figure at one million (7). Death certificates from states attributed almost 500 fatalities per year among children under 5 years of age to ingestion of drugs and household products (1). Therefore, the American Academy of Pediatrics' Committee on Accident Prevention recommended the establishment of poison control centers. The first center opened in Chicago, Illinois, in 1953.

In 1957, under the auspices of PHS, the National Clearinghouse for Poison Control Centers was established to collect data from poison control centers and provide them with diagnostic and therapeutic information on the many household products involved in childhood poisonings. In 1958, the American Association of Poison Control Centers was created to provide a professional membership society that offered guidance to its members and produced and disseminated poisoning-prevention materials.

Creation of NPPW. In the 1950s, a Missouri pharmacist, Homer A. George, became concerned about conflicting or nonexistent antidotes for some medicines and chemicals sold in his practice. He perceived a need for greater public awareness of means to prevent childhood poisonings. In 1958, he convinced his town's mayor to proclaim a Poison Prevention Week, then persuaded Missouri's governor to proclaim a statewide Poison Prevention Week. Eventually, Homer George convinced his congressional representative to introduce national legislation. With assistance from the American College of Apothecaries, the American Pharmaceutical Association, and PHS, the enabling legislation was guided through the 86th Congress and signed into law by President John F. Kennedy on September 16, 1961. To coordinate the first NPPW, the American Pharmaceutical Association and PHS sponsored a meeting in Washington, D.C., that was attended by 21 professional, industrial, and service organizations and federal agencies. That meeting established what is now called the Poison Prevention Week Council (PPWC). The first NPPW was observed March 18-24, 1962.

EFFECTS OF NPPW

By 1966, almost every state had some poisoning-prevention activity, including distribution of poisoning-prevention publications, governors' proclamations, and public service announcements. In 1970, Congress passed the Poison Prevention Packaging Act, which required child-resistant packaging for many products. While poisoning deaths had begun declining during the 1960s, this Act had a major effect on poisonings (4). By 1973, poisoning deaths among children under 5 years of age had declined 50% since the first NPPW. This was attributed in large part to increased public awareness of poisoning-prevention measures (1) and to the Poison Prevention Packaging Act. In 1986, 33 years after the opening of the first U.S. poison control center, there are over 300 such centers nationwide.

Over the past 25 years, the PPWC has dealt with issues that included:

1. **First Aid Measures.** The PPWC recommends that a poison control center, hospital, or physician be called as soon as possible after ingestion.
2. **Different Statistics.** Although there are several sources of data about childhood poisonings (5), mortality data collected by the National Center for Health Statistics have been considered the most reliable, because all states are required to report deaths to NCHS.
3. **Adult Poisonings.** While NPPW focuses on children, the elderly are also at risk of being poisoned.

Poison Prevention Week — Continued

Editorial Note: NPPW is sponsored by the PPWC, a coalition of 34 national organizations* representing industry, consumer groups, health professionals, government, and the media. PPWC members are continuously involved in projects to reduce unintentional poisonings among young children (4-6).

This year, as many as 130,000 children under 5 years of age will ingest poisons. The PPWC and the U.S. Consumer Product Safety Commission (CPSC) recommend the following precautions to reduce the risk:

1. Household products and medicines should be kept out of reach and out of sight of children, preferably in a locked cabinet or closet. When leaving the room even briefly, containers of such products should be moved to a safe place.
2. Medicines should be stored separately from other household products and kept in their original containers—never in cups or soft-drink bottles.
3. All products should be properly labeled, and the label should be read before use.
4. A light should be turned on when giving or taking medicine.
5. Since children tend to imitate adults, adults should avoid taking medications in their presence. Medicine should not be drunk from the bottle.
6. Medicines should be referred to by their correct names. They are not candies.
7. Medicine cabinets should be cleaned out periodically. Old medicines should be discarded by flushing them down the drain, rinsing the container with water, and discarding it.
8. Household substances in child-resistant packaging should be used. Prescription medicines should be contained in safety packaging. Safety features should be carefully resecured after using.

To avoid poisonings among elderly persons, PPWC and CPSC recommend the following:

1. Always read the label and follow instructions when taking medicine.
2. Turn on a light at night when taking medicine.
3. Never mix medicines and alcohol, and never take more than the prescribed amount of medicine.
4. Do not "borrow" a friend's medicine or take old medicines.
5. Inform the physician what other medicines are being taken to avoid the risk of adverse drug interactions.

Additional information on NPPW is available from the Secretary, PPWC, P.O. Box 1543, Washington, D.C. 20013; telephone (301) 492-6580. Additional information on poisoning prevention is available from CPSC's toll-free hotline, (800) 638-2772.

Reported by Poison Prevention Week Council, Consumer Product Safety Commission, Washington, D.C.; Office of the Director, Epidemiology Program Office, CDC.

References

1. Poison Prevention Week Council. 1985 annual report. A history of National Poison Prevention Week. Washington, D.C.: Poison Prevention Week Council, 1985.

*Members of the PPWC are: American Academy of Clinical Toxicology; American Academy of Pediatrics; American Association of Poison Control Centers; American Association of Retired Persons; American College of Emergency Physicians; American Dental Association; American Hospital Association; American Medical Association; American Nurses' Association; American Petroleum Institute; American Pharmaceutical Association; American Public Health Association; American Red Cross; American Society of Hospital Pharmacists; Boy Scouts of America; Chemical Specialties Manufacturers Association, Inc.; Closure Manufacturers Association; Cosmetic, Toiletry, and Fragrance Association, Inc.; Council For Responsible Nutrition; Council on Family Health; Girl Scouts of the United States of America; National Agricultural Chemicals Association; National Association of Broadcasters; National Association of Chain Drug Stores; National Association of Retail Druggists; National Paint and Coatings Association; National Safety Council; Pharmaceutical Manufacturers Association; Soap and Detergent Association; The Proprietary Association; U.S. Consumer Product Safety Commission; U.S. Department of Agriculture—Extension Service; U.S. Department of Health and Human Services—Food and Drug Administration, Bureau of Drugs; and U.S. Environmental Protection Agency.

Poison Prevention Week — Continued

2. Division of Vital Statistics, National Center for Health Statistics. Unpublished data, 1983.
3. American Academy of Pediatrics. Unpublished data, 1950.
4. CDC. Unintentional poisoning among young children—United States. MMWR 1983;32:117-8.
5. CDC. Update: childhood poisonings—United States. MMWR 1985; 34:117-8.
6. CDC. Poisoning among young children—United States. MMWR 1984;33:129-31.

Current Trends**Additional Recommendations to Reduce Sexual and Drug Abuse-Related Transmission of Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus****BACKGROUND**

Human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the virus that causes acquired immunodeficiency syndrome (AIDS), is transmitted through sexual contact, parenteral exposure to infected blood or blood components, and perinatally from mother to fetus or neonate. In the United States, over 73% of adult AIDS patients are homosexual or bisexual men; 11% of these males also had a history of intravenous (IV) drug abuse. Seventeen percent of all adult AIDS patients were heterosexual men or women who abused IV drugs (1,2). The prevalence of HTLV-III/LAV antibody is high in certain risk groups in the United States (3,4).

Since a large proportion of seropositive asymptomatic persons have been shown to be viremic (5), all seropositive individuals, whether symptomatic or not, must be presumed capable of transmitting this infection. A repeatedly reactive serologic test for HTLV-III/LAV has important medical, as well as public health, implications for the individual and his/her health-care provider. The purpose of these recommendations is to suggest ways to facilitate identification of seropositive asymptomatic persons, both for medical evaluation and for counseling to prevent transmission.

Previous U.S. Public Health Service recommendations pertaining to sexual, IV drug abuse, and perinatal transmission of HTLV-III/LAV have been published (6-8). Reduction of sexual and IV transmission of HTLV-III/LAV should be enhanced by using available serologic tests to give asymptomatic, infected individuals in high-risk groups the opportunity to know their status so they can take appropriate steps to prevent the further transmission of this virus.

Since the objective of these additional recommendations is to help interrupt transmission by encouraging testing and counseling among persons in high-risk groups, careful attention must be paid to maintaining confidentiality and to protecting records from any unauthorized disclosure. The ability of health departments to assure confidentiality—and the public confidence in that ability—are crucial to efforts to increase the number of persons requesting such testing and counseling. Without appropriate confidentiality protection, anonymous testing should be considered. Persons tested anonymously would still be offered medical evaluation and counseling.

PERSONS AT INCREASED RISK OF HTLV-III/LAV INFECTION

Persons at increased risk of HTLV-III/LAV infection include: (1) homosexual and bisexual men; (2) present or past IV drug abusers; (3) persons with clinical or laboratory evidence of infection, such as those with signs or symptoms compatible with AIDS or AIDS-related complex (ARC); (4) persons born in countries where heterosexual transmission is thought to play

HTLV-III/LAV — Continued

a major role*[†]; (5) male or female prostitutes and their sex partners; (6) sex partners of infected persons or persons at increased risk; (7) all persons with hemophilia who have received clotting-factor products; and (8) newborn infants of high-risk or infected mothers.

RECOMMENDATIONS

1. Community health education programs should be aimed at members of high-risk groups to: (a) increase knowledge of AIDS; (b) facilitate behavioral changes to reduce risks of HTLV-III/LAV infection; and (c) encourage voluntary testing and counseling.
2. Counseling and voluntary serologic testing for HTLV-III/LAV should be routinely offered to all persons at increased risk when they present to health-care settings. Such facilities include, but are not limited to, sexually transmitted disease clinics, clinics for treating parenteral drug abusers, and clinics for examining prostitutes.
 - a. Persons with a repeatedly reactive test result (see section on Test Interpretation) should receive a thorough medical evaluation, which may include history, physical examination, and appropriate laboratory studies.
 - b. High-risk persons with a negative test result should be counseled to reduce their risk of becoming infected by:
 - (1) Reducing the number of sex partners. A stable, mutually monogamous relationship with an uninfected person eliminates any new risk of sexually transmitted HTLV-III/LAV infection.
 - (2) Protecting themselves during sexual activity with any possibly infected person by taking appropriate precautions to prevent contact with the person's blood, semen, urine, feces, saliva, cervical secretions, or vaginal secretions. Although the efficacy of condoms in preventing infections with HTLV-III/LAV is still under study, consistent use of condoms should reduce transmission of HTLV-III/LAV by preventing exposure to semen and infected lymphocytes (9,10).
 - (3) For IV drug abusers, enrolling or continuing in programs to eliminate abuse of IV substances. Needles, other apparatus, and drugs must never be shared.
 - c. Infected persons should be counseled to prevent the further transmission of HTLV-III/LAV by:
 - (1) Informing prospective sex partners of his/her infection with HTLV-III/LAV, so they can take appropriate precautions. Clearly, abstention from sexual activity with another person is one option that would eliminate any risk of sexually transmitted HTLV-III/LAV infection.
 - (2) Protecting a partner during any sexual activity by taking appropriate precautions to prevent that individual from coming into contact with the infected person's blood, semen, urine, feces, saliva, cervical secretions, or vaginal secretions. Although the efficacy of using condoms to prevent infections with HTLV-III/LAV is still under study, consistent use of condoms should reduce transmission of HTLV-III/LAV by preventing exposure to semen and infected lymphocytes (9,10).
 - (3) Informing previous sex partners and any persons with whom needles were shared of their potential exposure to HTLV-III/LAV and encouraging them to seek counseling/testing.
 - (4) For IV drug abusers, enrolling or continuing in programs to eliminate abuse of IV substances. Needles, other apparatus, and drugs must never be shared.
 - (5) Not sharing toothbrushes, razors, or other items that could become contaminated with blood.
 - (6) Refraining from donating blood, plasma, body organs, other tissue, or semen.

*e.g., Haiti, Central African countries.

HTLV-III/LAV - Continued

- (7) Avoiding pregnancy until more is known about the risks of transmitting HTLV-III/LAV from mother to fetus or newborn (8).
 - (8) Cleaning and disinfecting surfaces on which blood or other body fluids have spilled, in accordance with previous recommendations (2).
 - (9) Informing physicians, dentists, and other appropriate health professionals of his/her antibody status when seeking medical care so that the patient can be appropriately evaluated.
3. Infected patients should be encouraged to refer sex partners or persons with whom they have shared needles to their health-care provider for evaluation and/or testing. If patients prefer, trained health department professionals should be made available to assist in notifying their partners and counseling them regarding evaluation and/or testing.
 4. Persons with a negative test result should be counseled regarding their need for continued evaluation to monitor their infection status if they continue high-risk behavior (8).
 5. State and local health officials should evaluate the implications of requiring the reporting of repeatedly reactive HTLV-III/LAV antibody test results to the state health department.
 6. State or local action is appropriate on public health grounds to regulate or close establishments where there is evidence that they facilitate high-risk behaviors, such as anonymous sexual contacts and/or intercourse with multiple partners or IV drug abuse (e.g., bath-houses, houses of prostitution, "shooting galleries").

TEST INTERPRETATION

Commercially available tests to detect antibody to HTLV-III/LAV are enzyme-linked immunosorbant assays (ELISAs) using antigens derived from disrupted HTLV-III/LAV. When the ELISA is reactive on initial testing, it is standard procedure to repeat the test on the same specimen. Repeatedly reactive tests are highly sensitive and specific for HTLV-III/LAV antibody. However, since falsely positive tests occur, and the implications of a positive test are serious, additional more specific tests (e.g., Western blot, immunofluorescent assay, etc.) are recommended following repeatedly reactive ELISA results, especially in low-prevalence populations. If additional more specific test results are not readily available, persons in high-risk groups with strong repeatedly reactive ELISA results can be counseled before any additional test results are received regarding their probable infection status, their need for medical follow-up, and ways to reduce further transmission of HTLV-III/LAV.

OTHER CONSIDERATIONS

State or local policies governing informing and counseling sex partners and those who share needles with persons who are HTLV-III/LAV-antibody positive will vary, depending on state and local statutes that authorize such actions. Accomplishing the objective of interrupting transmission by encouraging testing and counseling among persons in high-risk groups will depend heavily on health officials paying careful attention to maintaining confidentiality and protecting records from unauthorized disclosure.

The public health effectiveness of various approaches to counseling, sex-partner referral, and laboratory testing will require careful monitoring. The feasibility and efficacy of each of these measures should be evaluated by state and local health departments to best utilize available resources.

Developed by Center for Prevention Svcs and Center for Infectious Diseases, CDC, in consultation with persons from numerous other organizations and groups.

References

1. Curran JW, Morgan WM, Hardy AM, Jaffe HW, Darrow WW, Dowdle WR. The epidemiology of AIDS: current status and future prospects. *Science* 1985;229:1352-7.
2. CDC. Recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. *MMWR* 1985;34:682-6, 691-5.
3. CDC. Update: acquired immunodeficiency syndrome in the San Francisco cohort study, 1978-1985. *MMWR* 1985;34:573-5.

HTLV-III/LAV - Continued

4. CDC. Heterosexual transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus. *MMWR* 1985;34:561-3.
5. CDC. Provisional public health services inter-agency recommendations for screening donated blood and plasma for antibody to the virus causing acquired immunodeficiency syndrome. *MMWR* 1985;34:1-5.
6. CDC. Prevention of acquired immune deficiency syndrome (AIDS): report of inter-agency recommendations. *MMWR* 1983;32:101-4.
7. CDC. Antibodies to a retrovirus etiologically associated with acquired immunodeficiency syndrome (AIDS) in populations with increased incidences of the syndrome. *MMWR* 1984;33:377-9.
8. CDC. Recommendations for assisting in the prevention of perinatal transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus and acquired immunodeficiency syndrome. *MMWR* 1985;34:721-32.
9. Judson FN, Bodin GF, Levin MJ, Ehrt JM, Masters HB. In vitro tests demonstrate condoms provide an effective barrier against chlamydia trachomatis and herpes simplex virus. Abstract in Program of the International Society for STD Research, Seattle, Washington, August 1-3, 1983:176.
10. Conant MA, Spicer DW, Smith CD. Herpes simplex virus transmission: condom studies. *Sex Transm Dis* 1984;11:94-5.

Report of the Recommendations of the 1985 DES Task Force of the U.S. Department of Health and Human Services

In 1978, the U.S. Department of Health, Education, and Welfare set up a DES (diethylstilbestrol [a synthetic estrogen]) Task Force to review all aspects of the DES question and to develop recommendations regarding health issues of DES and research gaps that exist. In 1985, a second DES Task Force of the U.S. Department of Health and Human Services (DHHS) was convened to review recent studies showing a possible increased risk of breast cancer among women given DES during pregnancy and a possible excess of precancerous abnormalities of the cervix and vagina among women exposed to DES in utero (1).

BREAST CANCER

Since 1978, results of four investigations relevant to this issue have been published (2-5). Two of these studies were randomized clinical trials reporting the long-term follow-up results of the use of DES during pregnancy. In one, 80 diabetic women received hormonal treatment, and 76 diabetic women received placebos. After 29 years of follow-up, four cases of breast cancer had occurred among the exposed women, and none, among the unexposed women (2). In another study, 10 cases of breast cancer were found among 319 DES-exposed women, and nine, among 331 unexposed women, suggesting there was no excess risk. Exposure occurred in the early 1950s.

Two observational follow-up studies of women treated with DES during pregnancy have also been reported recently (4,5). In these studies, the overall relative risk of breast cancer among the exposed women ranged from 1.2 to 1.5. One study noted that there was no increased risk in the first 20 years of follow-up but that the relative risk rose to 1.6 during the 20-29 years after exposure and to 2.5 for those followed 30 years or more (5).

The 1985 Task Force concluded that:

1. These levels of excess risk are difficult to evaluate, since it is difficult to rule out various sources of bias that could be responsible for such excesses.
2. In the two observational studies, the interpretation involves assessing whether the excess risks are due to the drug itself or to the indications for the use of the drug. Data from two recent studies suggest that spontaneous abortion before a first birth is a risk factor for the development of breast cancer (6,7). In the observational studies, a primary indication of DES use was previous spontaneous abortion. The Task Force felt it would be useful to analyze the data on risk according to frequency of spontaneous

DES Task Force — Continued

abortion before a first live birth. Unless or until such analyses can be done and evaluated, it was felt that separating a drug effect from an effect related to the indication for drug use remains an open issue.

3. In all these studies, it is possible that DES-exposed mothers are more likely to have had more intensive medical attention and, therefore, higher rates of breast cancer diagnosis. This could take the form of earlier diagnosis or an excess of cases or both.
4. The 1985 DES Task Force concluded that women who used DES during their pregnancies may subsequently experience an increased risk of breast cancer. However, a causal relationship is still unproven, and the observed level of excess risk is similar to that for a number of other breast cancer risk factors. (See Editorial Note below.)

SQUAMOUS CELL ABNORMALITIES OF THE UTERINE CERVIX IN DES-EXPOSED DAUGHTERS

In 1974, the National Cancer Institute began a multi-institutional cooperative research study, the National Cooperative Diethylstilbestrol Adenosis Project (DESAD Project). The DESAD Project was a large collaborative study involving four groups of DES-exposed persons and having a complex study design.

(Continued on page 161)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	10th Week Ending			Cumulative, 10th Week Ending		
	Mar. 8, 1986	Mar. 9, 1985	Median 1981-1985	Mar. 8, 1986	Mar. 9, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	200	109	N	2,129	1,082	N
Aseptic meningitis	90	70	68	807	658	797
Encephalitis: Primary (arthropod-borne & unsp.)	14	25	18	152	160	160
Post-infectious	-	4	1	8	23	14
Gonorrhea: Civilian	13,449	15,381	16,500	148,195	147,923	175,513
Military	382	471	471	2,918	3,697	4,918
Hepatitis: Type A	433	457	457	4,317	3,942	4,411
Type B	517	541	454	4,413	4,521	4,209
Non A, Non B	70	109	N	553	770	N
Unspecified	114	153	153	1,026	869	1,334
Legionellosis	8	20	N	98	130	N
Leprosy	7	23	6	46	86	44
Malaria	23	16	16	125	127	127
Measles: Total*	56	65	65	508	239	239
Indigenous	49	56	N	487	187	N
Imported	7	9	N	21	52	N
Meningococcal infections: Total	82	80	89	621	602	657
Civilian	82	79	88	620	601	657
Military	-	1	1	1	1	2
Mumps	48	98	114	502	682	809
Pertussis	46	31	30	381	259	240
Rubella (German measles)	7	14	23	79	51	183
Syphilis (Primary & Secondary): Civilian	418	423	540	4,537	4,670	5,814
Military	5	-	2	38	29	78
Toxic Shock syndrome	7	10	N	50	81	N
Tuberculosis	390	507	502	3,367	3,380	3,917
Typhoid fever	3	1	2	13	21	18
Typhus fever, tick-borne (RMSF)	7	2	7	40	43	67
Rabies, animal	-	1	1	8	5	10
	73	68	108	760	749	863

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	
Botulism: Foodborne	3	Plague	10
Infant (Calif. 1, Hawaii 1)	11	Poliomyelitis, Paralytic	-
Other	-	Psittacosis	-
Brucellosis (Calif. 2)	9	Rabies, human	10
Cholera	-	Tetanus	-
Congenital rubella syndrome	1	Trichinosis	6
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	7
Diphtheria	-		1

*Six of the 56 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
March 8, 1986 and March 9, 1985 (10th Week)

Reporting Area	AIDS	Aseptic Mening- itis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	2,129	90	152	8	148,195	147,923	433	517	70	114	8	46
NEW ENGLAND	109	4	7	-	3,460	4,815	7	47	4	11	-	1
Maine	4	-	-	-	167	198	-	2	-	-	-	-
NH	3	-	2	-	106	102	-	-	-	-	-	-
VT	1	-	2	-	58	45	-	-	-	-	-	-
Mass	62	3	2	-	1,417	1,795	7	40	4	11	-	-
RI	9	-	-	-	327	363	-	-	-	-	-	1
Conn	30	1	1	-	1,385	2,312	-	5	-	-	-	-
MID ATLANTIC	761	18	26	-	25,035	20,606	26	37	3	31	-	5
Upstate N Y	51	6	8	-	3,045	2,738	15	6	1	-	-	-
N Y City	490	7	8	-	14,322	9,194	4	3	-	30	-	5
N J	152	-	2	-	2,943	3,990	4	15	2	-	-	-
Pa	68	3	8	-	4,725	4,684	3	13	-	1	-	-
E N CENTRAL	118	12	30	1	19,639	21,563	23	49	6	4	4	3
Ohio	29	3	10	1	5,305	5,148	15	25	1	2	3	-
Ind	16	2	2	-	3,334	2,176	3	2	2	2	-	-
Ill	42	4	3	-	2,831	6,676	3	4	2	-	-	2
Mich	28	3	14	-	6,783	6,194	2	18	1	-	1	1
Wis	3	-	1	-	1,386	1,369	-	-	-	-	-	-
W N CENTRAL	49	6	1	1	7,244	7,832	30	18	2	-	1	1
Minn	24	-	-	-	1,029	1,235	2	5	-	-	-	-
Iowa	3	1	1	-	711	824	-	2	-	-	-	-
Mo	13	4	-	-	3,401	3,552	4	10	2	-	-	-
N Dak	2	-	-	-	77	59	-	-	-	-	-	-
S Dak	1	1	-	-	126	144	24	-	-	-	-	-
Nebr	3	-	-	-	528	668	-	1	-	-	1	-
Kans	3	-	-	1	1,372	1,346	-	-	-	-	-	-
S ATLANTIC	244	13	28	6	32,458	31,368	31	99	10	8	1	-
Del	7	-	2	-	660	645	-	1	1	-	-	-
Md	31	3	8	-	4,739	4,773	4	13	-	-	-	-
D C	21	-	-	-	2,914	2,719	-	5	-	-	-	-
Va	38	2	12	-	3,502	3,500	4	15	2	1	-	-
W Va	-	-	1	-	453	404	-	5	-	-	-	-
N C	18	2	4	-	5,910	6,271	1	21	1	1	1	-
S C	13	-	-	-	3,593	3,933	-	13	-	1	-	-
Ga	21	3	-	-	-	-	5	7	-	-	-	-
Fla	95	3	1	6	10,687	9,123	17	19	6	5	-	-
E S CENTRAL	26	5	12	-	13,362	13,087	3	34	4	1	-	-
Ky	7	-	6	-	1,569	1,449	1	8	1	-	-	-
Tenn	12	2	1	-	5,277	5,124	-	8	3	-	-	-
Ala	3	2	5	-	3,579	4,035	1	13	-	-	-	-
Miss	4	1	-	-	2,937	2,479	1	5	-	1	-	-
W S CENTRAL	205	10	8	-	19,715	21,627	69	44	8	19	-	4
Ark	7	-	-	-	1,790	2,178	5	1	-	-	-	-
La	30	1	1	-	3,528	4,519	1	2	1	-	-	-
Okla	2	1	1	-	2,304	2,183	9	4	1	-	-	-
Tex	166	8	6	-	12,093	12,747	54	37	6	19	-	4
MOUNTAIN	66	5	10	-	4,781	4,818	44	50	9	13	-	5
Mont	-	-	-	-	123	151	-	-	-	-	-	-
Idaho	1	-	-	-	169	167	2	-	-	1	-	-
Wyo	2	-	2	-	114	143	1	-	-	-	-	-
Colo	34	2	-	-	1,312	1,398	1	11	-	6	-	2
N Mex	4	1	-	-	521	590	4	3	1	-	-	-
Ariz	14	2	4	-	1,271	1,402	21	24	6	4	-	1
Utah	5	-	1	-	223	213	7	8	1	2	-	-
Nev	6	-	1	-	1,048	754	8	4	1	-	-	2
PACIFIC	551	19	30	-	22,501	22,207	200	139	24	27	2	27
Wash	21	-	2	-	1,719	1,730	7	11	-	-	-	5
Oreg	10	-	-	-	861	1,309	41	11	3	1	-	-
Calif	507	18	26	-	19,001	18,320	152	116	21	26	2	21
Alaska	4	1	2	-	662	508	-	1	-	-	-	-
Hawaii	9	-	-	-	258	340	-	-	-	-	-	1
Guam	-	-	-	-	1	28	-	1	-	-	-	-
PR	16	-	2	-	453	810	-	2	-	-	-	-
VI	-	-	-	-	43	76	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	4	146	8	-	-	-	-	-
Amer Samoa	-	-	-	-	7	-	2	-	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending March 8, 1986 and March 9, 1985 (10th Week)

Reporting Area	Malana	Measles (Rubella)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985									
UNITED STATES	125	49	487	7	21	239	621	48	502	46	381	259	7	79	51
NEW ENGLAND	7	1	9	-	-	-	45	1	8	-	24	13	-	-	3
Maine	-	-	-	-	-	-	10	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	2	-	4	-	7	7	-	-	1
Vt.	1	-	-	-	-	-	7	-	-	-	1	1	-	-	-
Mass	3	1	9	-	-	-	8	-	-	-	8	2	-	-	-
R.I.	1	-	-	-	-	-	3	-	3	-	1	1	-	-	-
Conn	2	-	-	-	-	-	15	1	1	-	5	-	-	-	-
MID ATLANTIC	18	2	181	1	3	10	112	4	34	3	57	44	2	19	9
Upstate N.Y.	-	1	1	-	2	4	28	1	10	2	38	22	2	14	2
N.Y. City	7	1	17	1†	1	6	28	-	1	-	5	7	-	5	6
N.J.	2	-	163	-	-	-	18	-	12	-	-	1	-	-	1
Pa	-	9	-	-	-	-	38	3	11	1	14	14	-	-	-
E.N. CENTRAL	4	3	40	-	-	78	76	18	235	9	85	50	-	1	5
Ohio	1	-	-	-	-	11	36	2	38	7	45	8	-	-	-
Ind	-	-	-	-	-	-	9	4	12	-	9	11	-	-	-
Ill	2	3	21	-	-	4	16	9	129	-	2	9	-	-	-
Mich	1	-	-	-	-	32	15	2	32	2	11	5	-	-	4
Wis	-	-	19	-	-	31	-	1	24	-	18	17	-	1	1
W.N. CENTRAL	3	2	51	-	-	-	28	2	18	3	22	25	-	2	6
Minn	1	-	-	-	-	-	7	-	1	-	11	10	-	-	-
Iowa	1	-	-	-	-	-	4	-	5	2	4	1	-	-	-
Mo	1	-	-	-	-	-	13	1	4	1	3	5	-	1	-
N. Dak	-	-	-	-	-	-	-	-	1	-	1	3	-	-	-
S. Dak	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebr	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Kans	-	2	51	-	-	-	2	-	-	-	-	1	-	-	-
							2	-	6	-	3	5	-	1	6
S. ATLANTIC	18	19	73	-	1	7	129	3	48	7	74	50	-	5	4
Del	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md	3	3	4	-	-	1	15	-	3	2	18	13	-	-	-
D.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1
Va	6	-	-	-	-	3	21	1	6	-	6	1	-	-	-
W. Va	-	-	-	-	-	-	2	2	19	1	2	-	-	-	-
N.C	2	-	-	-	-	-	16	-	4	1	12	6	-	-	-
S.C	-	15	58	-	-	-	20	-	4	-	2	-	-	-	-
Ga	2	1	1	-	-	-	13	-	3	3	29	18	-	-	2
Fla	5	-	10	-	1	2	39	-	0	-	5	12	-	5	1
E.S. CENTRAL	2	-	-	-	-	-	32	-	5	-	11	3	-	1	1
Ky	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn	-	-	-	-	-	-	14	-	1	-	2	1	-	-	-
Ala	-	-	-	-	-	-	10	-	1	-	8	1	-	-	-
Miss	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
W.S. CENTRAL	5	10	36	1	5	2	37	6	37	3	18	14	2	12	4
Ark	-	-	21	-	-	-	2	-	2	-	-	7	-	-	-
La	1	-	-	-	-	-	4	-	-	1	2	-	-	-	1
Okl	1	-	-	-	-	-	7	N	N	2	16	7	-	-	-
Tex	3	10	15	1†	5	2	24	6	35	-	-	-	2	12	3
MOUNTAIN	4	1	33	1	5	96	29	4	58	19	52	13	-	-	1
Mont	-	-	-	1§	1	96	4	-	2	-	-	1	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	-	13	-	-	-	-
Wyo	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo	1	-	-	-	2	-	5	-	4	3	12	5	-	-	-
N. Mex	-	-	13	-	2	-	4	N	N	1	7	2	-	-	-
Ariz	2	1	20	-	-	-	9	4	46	9	19	2	-	-	-
Utah	-	-	-	-	-	-	2	-	1	-	1	3	-	-	1
Nev	1	-	-	-	-	-	2	-	3	-	-	-	-	-	-
PACIFIC	64	11	64	4	7	48	133	10	59	2	38	47	3	39	18
Wash	5	2	20	2†	3	1	20	-	4	2	16	5	-	-	-
Oreg	7	-	-	1†	2	-	12	N	N	-	2	5	-	-	1
Calif	52	8	38	1†	2	41	96	9	49	-	17	35	3	39	15
Alaska	-	-	-	-	-	-	5	-	-	-	1	-	-	-	-
Hawaii	-	1	6	-	-	4	-	1	4	-	2	2	-	-	2
Guam	-	1	1	-	-	10	-	-	1	-	-	-	1	1	1
P.R.	1	-	-	-	-	35	1	-	11	-	2	1	-	-	4
V.I.	-	-	-	-	-	9	-	-	3	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 8, 1986 and March 9, 1985 (10th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	4,537	4,670	7	3,367	3,380	13	40	8	760
NEW ENGLAND	110	102	1	104	117	-	1	1	-
Maine	7	3	1	12	9	-	-	-	-
NH	5	3	-	3	6	-	-	-	-
Vt	4	-	-	6	-	-	-	-	-
Mass	58	53	-	50	66	-	1	1	-
RI	5	2	-	5	16	-	-	-	-
Conn	31	41	-	28	20	-	-	-	-
MID ATLANTIC	657	617	-	627	666	-	4	-	89
Upstate N.Y.	31	29	-	94	88	-	1	-	12
N.Y. City	366	417	-	300	380	-	3	-	-
N.J.	137	117	-	126	48	-	-	-	-
Pa.	123	54	-	107	150	-	-	-	77
E.N. CENTRAL	102	230	-	472	441	-	3	-	9
Ohio	17	16	-	73	82	-	-	-	-
Ind	26	17	-	53	50	-	-	-	2
Ill	18	126	-	209	209	-	-	-	1
Mich	27	60	-	109	78	-	3	-	2
Wis	15	11	-	28	22	-	-	-	4
W.N. CENTRAL	51	58	-	83	89	4	2	-	92
Minn	8	18	-	17	16	-	1	-	-
Iowa	10	10	-	11	16	1	-	-	24
Mo	25	18	-	43	36	3	1	-	5
N. Dak	2	-	-	3	2	-	-	-	34
S. Dak	-	3	-	2	5	-	-	-	25
Nebr	7	1	-	3	4	-	-	-	-
Kans	5	8	-	4	10	-	-	-	-
S. ATLANTIC	1,163	1,180	-	674	669	3	3	3	181
Del	8	9	-	6	8	-	-	-	-
Md	84	99	-	45	60	1	-	-	116
D.C.	77	57	-	30	31	-	-	-	-
Va	98	61	-	60	43	1	-	-	24
W. Va	3	1	-	25	17	-	-	-	5
N.C.	115	142	-	106	72	-	2	2	-
S.C.	148	153	-	84	95	-	-	1	5
Ga	-	-	-	79	99	1	-	-	25
Fla	630	658	-	249	244	-	1	-	6
E.S. CENTRAL	320	415	-	309	288	3	-	2	33
Ky	21	13	-	76	63	2	-	1	8
Tenn	150	95	-	91	81	1	-	-	14
Ala	105	154	-	116	110	-	-	1	11
Miss	44	153	-	26	34	-	-	-	-
W.S. CENTRAL	1,049	1,167	-	416	344	3	1	2	78
Ark	47	64	-	36	22	2	-	-	13
La	173	214	-	107	58	-	-	-	2
Okl	33	40	-	41	40	1	-	-	7
Tex	796	849	-	232	224	-	1	2	56
MOUNTAIN	137	159	3	69	50	-	2	-	155
Mont	3	1	-	2	5	-	-	-	62
Idaho	1	2	-	4	1	-	-	-	-
Wyo	-	4	-	-	1	-	-	-	64
Colo	38	38	1	-	3	-	-	-	-
N. Mex	17	17	-	19	8	-	-	-	2
Ariz	59	88	1	33	27	-	1	-	27
Utah	4	2	1	1	2	-	1	-	-
Nev	15	7	-	10	3	-	-	-	-
PACIFIC	948	742	3	613	716	-	24	-	123
Wash	16	27	-	34	29	-	2	-	-
Oreg	22	22	-	28	23	-	-	-	-
Calif	900	681	3	503	590	-	20	-	120
Alaska	-	-	-	12	37	-	-	-	3
Hawaii	10	12	-	36	37	-	2	-	-
Guam	-	2	-	-	5	-	-	-	-
P.R.	167	188	-	55	56	-	-	-	6
V.I.	-	-	-	-	1	-	-	-	-
Pac. Trust Terr	-	13	-	3	16	-	-	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 8, 1986 (10th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	759	566	133	44	4	12	80	S ATLANTIC	1,654	1,043	377	136	50	48	87
Boston, Mass	214	139	52	17	2	4	33	Atlanta, Ga	178	118	38	17	1	3	5
Bridgeport, Conn	52	42	4	6	-	-	4	Baltimore, Md	420	259	110	31	10	10	13
Cambridge, Mass	36	31	5	-	-	-	5	Charlotte, N.C.	85	31	20	12	-	2	3
Fall River, Mass	39	33	3	3	-	-	3	Jacksonville, Fla	130	90	26	8	4	2	8
Hartford, Conn	25	15	7	2	-	1	3	Miami, Fla	160	81	44	21	6	8	2
Lowell, Mass	19	15	4	-	-	-	1	Norfolk, Va	66	38	20	3	5	-	7
Lynn, Mass	29	24	4	1	-	-	2	Richmond, Va	87	52	22	4	4	5	7
New Bedford, Mass	28	23	4	1	-	-	2	Savannah, Ga	55	42	9	3	-	1	5
New Haven, Conn	62	45	8	6	2	1	4	St. Petersburg, Fla	155	134	13	4	1	3	12
Providence, R.I.	89	68	17	4	-	2	7	Tampa, Fla	99	55	29	3	9	3	6
Somerville, Mass	11	10	1	-	-	-	1	Washington, D.C.	204	116	40	30	9	9	11
Springfield, Mass	47	33	10	1	-	3	5	Wilmington, Del	35	27	6	-	1	1	3
Waterbury, Conn	38	33	4	1	-	-	4								
Worcester, Mass	70	57	10	2	-	1	6								
MID ATLANTIC	3,167	2,644	273	126	57	66	187	E.S. CENTRAL	833	542	182	54	26	29	57
Albany, N.Y.	72	48	11	6	4	3	1	Birmingham, Ala	142	90	35	10	4	3	5
Allentown, Pa	11	10	1	-	-	-	-	Chattanooga, Tenn	54	41	8	1	2	2	9
Buffalo, N.Y.	136	96	26	9	1	4	14	Knoxville, Tenn	58	40	11	3	3	1	6
Camden, N.J.	44	33	5	3	-	3	-	Louisville, Ky	106	65	24	8	2	7	8
Elizabeth, N.J.	30	24	5	1	-	-	-	Memphis, Tenn	221	153	46	14	6	2	10
Erie, Pa.†	45	35	8	1	-	-	-	Mobile, Ala	96	64	23	2	4	3	10
Jersey City, N.J.	86	63	14	9	-	5	-	Montgomery, Ala	42	25	11	3	-	3	1
N.Y. City, N.Y. §	1,713	1,611	12	22	34	34	79	Nashville, Tenn	114	64	24	13	5	8	8
Newark, N.J.	79	50	13	11	1	3	7	W.S. CENTRAL	1,380	937	266	78	57	42	66
Paterson, N.J.	46	35	9	1	-	5	-	Austin, Tex	55	31	17	3	2	2	3
Philadelphia, Pa	409	267	85	36	8	13	28	Baton Rouge, La	60	39	12	7	2	-	5
Pittsburgh, Pa.†	93	66	18	7	-	2	5	Corpus Christi, Tex	32	21	6	2	2	1	-
Reading, Pa	43	38	4	1	-	-	5	Dallas, Tex	189	116	37	18	13	5	8
Rochester, N.Y.	149	111	26	4	4	14	14	El Paso, Tex	59	37	14	3	4	1	4
Schenectady, N.Y.	31	28	2	1	-	-	1	Fort Worth, Tex	107	62	30	8	5	2	10
Scranton, Pa.†	31	25	5	1	-	-	5	Houston, Tex §	319	283	6	6	12	12	5
Syracuse, N.Y.	53	41	7	3	2	-	4	Little Rock, Ark	74	48	19	4	1	2	5
Trenton, N.J.	30	19	7	4	-	-	4	New Orleans, La	153	98	40	10	3	2	3
Utica, N.Y.	36	24	10	2	-	-	3	San Antonio, Tex	195	112	53	13	8	9	14
Yonkers, N.Y.	30	20	5	4	1	-	5	Shreveport, La	33	25	7	-	-	1	1
								Tulsa, Okla	104	65	25	4	5	5	8
EN CENTRAL	2,574	1,819	446	144	61	101	140	MOUNTAIN	760	511	159	61	17	11	39
Akron, Ohio	77	53	14	4	1	5	4	Albuquerque, N.Mex	104	76	15	7	4	1	1
Canton, Ohio	82	40	19	1	-	2	8	Colorado Springs, Colo	50	34	6	6	2	2	9
Chicago, Ill. §	553	462	11	26	16	37	16	Denver, Colo	143	104	24	8	5	2	5
Cincinnati, Ohio	165	116	35	8	4	2	21	Las Vegas, Nev	99	64	29	3	1	2	6
Cleveland, Ohio	166	96	47	12	5	6	2	Ogden, Utah	26	16	6	2	-	1	2
Columbus, Ohio	169	109	39	11	2	8	2	Phoenix, Ariz	171	104	43	20	3	1	5
Dayton, Ohio	114	80	25	7	1	1	3	Pueblo, Colo	32	25	6	1	-	-	4
Detroit, Mich	302	184	59	32	13	14	15	Salt Lake City, Utah	45	27	12	4	-	2	2
Evansville, Ind	51	40	10	-	-	1	3	Tucson, Ariz	91	61	18	10	2	-	8
Fort Wayne, Ind	56	42	12	2	-	-	4								
Gary, Ind	18	12	4	1	1	-	-	PACIFIC	2,143	1,415	394	200	77	46	140
Grand Rapids, Mich	97	72	9	9	2	5	15	Berkeley, Calif	34	20	5	5	-	4	2
Indianapolis, Ind	193	124	52	5	6	6	6	Fresno, Calif	54	42	7	3	-	2	9
Madison, Wis	47	32	9	1	2	3	5	Glendale, Calif	37	31	4	1	1	-	3
Milwaukee, Wis	161	111	38	7	2	3	11	Honolulu, Hawaii	74	42	23	2	3	4	9
Peoria, Ill	39	26	10	2	1	-	3	Long Beach, Calif	119	80	21	14	3	1	25
Rockford, Ill	51	34	9	6	1	1	2	Los Angeles, Calif	686	438	125	74	30	8	29
South Bend, Ind	58	38	11	5	2	2	5	Oakland, Calif	79	52	15	8	2	2	6
Toledo, Ohio	125	88	26	5	2	4	9	Pasadena, Calif §	29	29	-	-	-	-	1
Youngstown, Ohio	70	60	9	-	-	1	6	Portland, Oreg	133	95	21	7	6	4	3
W.N. CENTRAL	802	566	151	43	17	24	56	Sacramento, Calif	175	113	37	16	4	5	11
Des Moines, Iowa	80	65	9	4	1	1	11	San Diego, Calif	165	101	38	13	7	6	18
Duluth, Minn	40	28	8	2	1	1	5	San Francisco, Calif	138	83	24	22	6	3	2
Kansas City, Kans	46	24	18	1	-	3	1	San Jose, Calif	177	116	40	11	7	3	13
Kansas City, Mo	117	86	20	6	3	2	6	Seattle, Wash	147	105	20	18	4	-	4
Lincoln, Nebr	37	23	9	2	2	1	2	Spokane, Wash	60	40	11	2	3	4	4
Minneapolis, Minn	89	63	15	4	4	3	6	Tacoma, Wash	36	28	3	4	1	-	1
Omaha, Nebr	80	61	12	4	3	-	11								
St. Louis, Mo	165	121	23	11	3	6	6	TOTAL	14,072	10,043	2,383	886	366	379	852
St. Paul, Minn	69	49	13	2	-	5	1								
Wichita, Kans	79	46	24	7	-	2	7								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

‡ Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

DES Task Force -- Continued

The 1978 DES Task Force concluded that, in the uterine cervix, the risks for squamous cell cancer were the same in unexposed and exposed daughters, i.e., there was no reliable scientific evidence to indicate that a risk of squamous cell cancer was associated with DES exposure in utero. This conclusion was based primarily on clinical evaluations and on the results from the initial screening examination of DES-exposed daughters in the DESAD Project.

A recent study that has reopened the issue of cervical abnormalities is a report from the DESAD Project summarizing the cytologic and pathologic abnormalities of the cervix and vagina noted during the first 7 years of follow-up of DES-exposed daughters (8). One subset of 744 women was identified from reviews of obstetrical records as exposed in utero to DES and was matched with another subset of 744 women who had not been exposed to DES. Over 7 years of screening, the incidence rate of mild, moderate, and severe dysplasia and of carcinoma in situ of the uterine cervix was substantially higher in the exposed women than in the unexposed (15.7, compared with 7.9 cases per 1,000 persons per year of follow-up) (8). The 1985 Task Force reviewed this report (8) and concluded that a relationship between DES exposure in utero and the risk of subsequently developing squamous cell cancer is not proven but needs further study.

The following considerations were thought to be important in interpreting the reported new finding of an increase in dysplasia among DES-exposed daughters (8):

1. While dysplasia is recognized as a potential risk for the development of squamous cell carcinoma, it does not always progress into carcinoma.
2. There was no difference between the matched cohorts of exposed and unexposed women in regard to a history of a prior diagnosis of dysplasia or in the prevalence of dysplasia at the initial examination. The nearly twofold difference in incidence rate for any degree of dysplasia, in the presence of essentially similar prevalence rates for the two groups (as noted in the 1978 DES Task Force Report), needs to be addressed.
3. There is an unexplained difference between the exposed and unexposed daughters in the frequency of a history of genital herpes: 11.8% of 703 DES-exposed and only 6.3% of 695 unexposed. This raises the possibility that the increased frequency of dysplasia in the DES-exposed daughters could be related to this higher frequency of a history of genital herpes infection in that group, rather than to the DES exposure. However, there is also the possibility that DES might be related to increased herpetic infection through long-term postnatal immunosuppression or through some other mechanism.
4. The possibility of an ascertainment bias also needs to be evaluated, since the likelihood that a woman would be biopsied is greater if the area of metaplasia (associated with DES exposure) is larger.

RECOMMENDATION

The Task Force recommended that physicians continue attempts to notify women for whom they had prescribed DES and that DHHS continue to support and encourage research on the possible adverse effects of DES. The Task Force outlined specific areas for further study.

In addition, the Task Force recommended continued dissemination of information to all physicians and DES-exposed mothers and offspring and continued implementation of recommendations for the surveillance of DES-exposed mothers, daughters, and sons. Recommendations for screening DES mothers for breast cancer are the same as those for other women. Details of screening DES-exposed daughters for cervical and vaginal lesions are given in the DES Task Force Report. Copies of the full report can be obtained by contacting: DES, Office of Cancer Communication, Building 31, National Cancer Institute, Bethesda, Maryland 20892; telephone (800) 4-CANCER.

Reported by the 1985 DES Task Force, US Dept of Health and Human Svcs.

DES Task Force — Continued

Editorial Note: Previously reported risk factors for breast cancer include a family history of breast cancer, nulliparity, late age at first birth of a child, prior atypical proliferative disease of the breast, certain ethnic characteristics, high socioeconomic status, early menarche, late menopause, high-fat diet, pregnancies of less than 4-5 months' duration, irregular menstrual cycles, obesity, and lack of exercise (9-11).

Similarly, there are multiple risk factors for cervical cancers. Among those reported are early sexual activity (especially with multiple partners), infections with genital herpes and human papilloma virus, multiple sex partners of the male mate, multiparity, and high chronic alcohol intake (12).

References

1. U.S. Department of Health and Human Services. Report of the 1985 DES Task Force. Bethesda, Maryland: National Institutes of Health, 1985.
2. Beral V, Colwell L. Randomized trial of high doses of stilboestrol and ethisterone in pregnancy: long-term follow-up of mothers. *Br Med J* 1980;281:1098-101.
3. Vessey MP, Fairweather DVI, Norman-Smith B, Buckley J. A randomized double-blind controlled trial of the value of stilboestrol therapy in pregnancy: long-term follow-up of mothers and their offspring. *Br J Obstet Gynaecol* 1983;90:1007-17.
4. Hadjimichael OC, Meigs JW, Falcier FW, Thompson WD, Flannery JT. Cancer risk among women exposed to exogenous estrogens during pregnancy. *J Natl Cancer Inst* 1984;73:831-4.
5. Greenberg ER, Barnes AB, Resseguie L, et al. Breast cancer in mothers given diethylstilbestrol in pregnancy. *N Engl J Med* 1984;311:1393-8.
6. Pike MC, Henderson BE, Casagrande JT, Rosario I, Gray GE. Oral contraceptive use and early abortion as risk factors for breast cancer in young women. *Br J Cancer* 1981;43:72-6.
7. Brinton LA, Hoover R, Fraumeni JF Jr. Reproductive factors in the aetiology of breast cancer. *Br J Cancer* 1983;47:757-62.
8. Robboy SJ, Noller KL, O'Brien P, et al. Increased incidence of cervical and vaginal dysplasia in 3,980 diethylstilbestrol-exposed young women. Experience of the National Collaborative Diethylstilbestrol Adenosis Project. *JAMA* 1984;252:2979-83.
9. Kelsey JL. A review of the epidemiology of human breast cancer. *Epidemiologic Reviews* 1979;1:74-109.
10. The Centers for Disease Control Cancer and Steroid Hormone Study. Long-term oral contraceptive use and the risk of breast cancer. *JAMA* 1983;249:1591-5.
11. Frisch RE, Wyshak G, Albright NL, et al. Lower prevalence of breast cancer and cancers of the reproductive system among former college athletes compared to non-athletes. *Br J Cancer* 1985;52:885-1.
12. Kelsey JL, Hildreth NG. Cancer of the cervix uteri. In: *Breast and gynecologic cancer epidemiology*. Boca Raton, Florida: CRC Press, Inc., 1983:117-41.

*Epidemiologic Notes and Reports***Respiratory Syncytial Virus — Oklahoma**

From November 1985 through the end of January 1986, an unusually large number of respiratory illnesses due to respiratory syncytial virus (RSV) occurred in Oklahoma.

Oklahoma Children's Memorial Hospital (OCMH), a 239-bed teaching hospital, serves Oklahoma City and is a tertiary referral center for central and western Oklahoma. From November 1985 through January 1986, more bronchiolitis was diagnosed each month among patients visiting the OCMH emergency room (ER) than in any month of the previous two winters (Figure 2). While the median age of patients during this 3-month epidemic season (5 months,

RSV — Continued

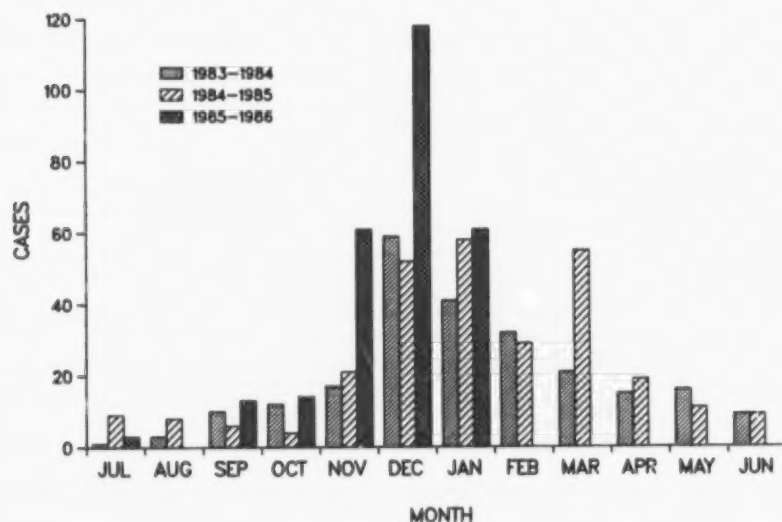
range 18 days to 70 months) was similar to that seen in the previous 2 years, the sex distribution (51% female) differed in that the usual predominance of males (59% for the November 1984-March 1985 season, 67% for the January 1984-March 1984 season) was not seen. In December, the peak month of the outbreak, more than twice as many patients were hospitalized for bronchiolitis than in any month during the previous 5 years.

RSV was identified in 66 (53.2%) of 124 nasopharyngeal aspirates submitted from hospitalized patients in December for viral culture or fluorescent antibody tests. This was the largest number of positive tests and the highest rate of RSV positivity for any month since the virology laboratory began testing for RSV in 1981. For patients hospitalized at OCMH for bronchiolitis through December 10 of this epidemic period, 39 (84.8%) of 46 of those who submitted nasopharyngeal aspirates for testing had RSV infection. Twenty-five (67.6%) of 37 patients with pneumonia had RSV infection. Although the number of patients seen with RSV-related illness increased, indicators of the severity were similar to those seen in previous years. For example, of 238 patients seen in the OCMH ER for bronchiolitis from November 1, 1985, through January 31, 1986, 57 (23.9%) were admitted to the hospital, compared with 36 (16.7%) of 215 and 37 (24.2%) of 153 for the two previous seasons, respectively. Likewise, the rate of admission to the intensive-care unit for patients with laboratory-confirmed RSV illnesses was 8.8/100 ER visits for bronchiolitis, compared with 8.4/100 for the previous season (November 1984-March 1985). Two deaths at OCMH were attributed to RSV during this season; one such death occurred during the previous year.

Reports of increased rates of bronchiolitis from physicians and hospitals in areas of Oklahoma relative to previous years indicate that the RSV epidemic is not limited to Oklahoma City.

Reported by W Pryor, MD, M Marks, MD, P Rettig, MD, J Waner, PhD, J Steumky, MD, D Conrad, MD, J Christensen, MD, W Chapman, MD, S Bullard, MD, J Hayes, MD, P Hines, MD, M Rock, MD, H Shalaby.

FIGURE 2. Patients with bronchiolitis seen at emergency room, — Oklahoma Children's Medical Center Hospital, 1983-1986



RSV — Continued

PhD, S Todd, N Whitehurst, L Wall, Oklahoma Children's Memorial Hospital, Oklahoma City, C Wood, J Dudley, Immunization Div, G Istre, MD, State Epidemiologist, Oklahoma State Dept of Health; Div of Field Svcs, Epidemiology Program Office, Respiratory and Enterovirus Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: RSV infection, the most common cause of bronchiolitis among infants, occurs in seasonal epidemics that usually peak in the winter months. For the last 10 years, data from seven to 16 U.S. university virus laboratories show the average initial outbreak month (the first month with 8% or more of the year's total isolates) has been December or January; the peak outbreak month, January or February; and the duration of the outbreak, 2-4 months. Several studies have shown that the number of RSV-associated illnesses varies from year to year (1,2). The Oklahoma outbreak, plus reports from other (university) laboratories, suggest that the number of RSV-associated illnesses has increased in several locations this year. Data from these laboratories also suggest RSV activity occurred earlier than usual this season, with the average initial outbreak month being November rather than December. The number of RSV isolates reported has increased through January in all reporting regions except the South Atlantic, where the number of RSV isolates peaked in December.

RSV is the major cause of acute, lower respiratory illness among infants and young children worldwide. It is estimated that nearly 50% of children under 1 year of age are infected with RSV during an epidemic, and between one in 50 and one in 200 of these are hospitalized (3). Among children hospitalized with RSV, mortality rates between 0.5% and 5.6% have been reported (4-7), consistent with the two of 57 (3.5%) reported in this outbreak. Of particular concern during RSV outbreaks is the potential for nosocomial spread to infants and children at greatest risk for severe disease, such as those with compromised cardiac, pulmonary, or immune systems. A mortality rate as high as 37% has been reported among hospitalized children with cardiac abnormalities who became infected with RSV (7). Nosocomial RSV has also been associated with nearly a twofold increase in the duration of hospitalization (8).

Recommendations for the control of RSV spread in hospitals include strict attention to good hand-washing practices and the use of gowns when contact with respiratory secretions of RSV-infected patients is likely. RSV-infected patients should be in private rooms or cohorted with other patients likely to be infected with RSV (9,10).

References

1. Glezen WP, Denny FW. Epidemiology of acute lower respiratory disease in children. *N Engl J Med* 1973;288:498-505.
2. Kim HW, Arrobbio JO, Brandt CD, et al. Epidemiology of respiratory syncytial virus infection in Washington, D.C. I. Importance of the virus in different respiratory tract disease syndromes and temporal distribution of infection. *Am J Epidemiol* 1973;98:216-25.
3. Hall CB. Respiratory syncytial virus. In: Feigin RD, Cherry JD, eds. *Textbook of pediatric infectious diseases*. Vol. II. Philadelphia: WB Saunders, 1981;1247-67.
4. Eriksson M, Forsgren M, Sjöberg S, von Sydow M, Wolontis S. Respiratory syncytial virus infection in young hospitalized children. Identification of risk patients and prevention of nosocomial spread by rapid diagnosis. *Acta Paediatr Scand* 1983;72:47-51.
5. Clarke SKR, Gardner PS, Poole PM, Simpson H, Tobin JO. Respiratory syncytial virus infection: admissions to hospital in industrial, urban, and rural areas. Report to the Medical Research Council Subcommittee on Respiratory Syncytial Virus Vaccines. *Br Med J* 1978;2:796-8.
6. Gardner PS, Turk DC, Adherne WA, Bird T, Holdaway MD, Court SDM. Deaths associated with respiratory tract infection in childhood. *Br Med J* 1967;4:316-20.
7. MacDonald NE, Hall CB, Suffin SC, Alexson C, Harris PJ, Manning JA. Respiratory syncytial viral infection in infants with congenital heart disease. *N Engl J Med* 1982;307:397-400.
8. Hall CB, Douglas RG Jr, Geiman JM, Messner MK. Nosocomial respiratory syncytial virus infections. *N Engl J Med* 1975;293:1343-6.
9. Garner JS, Simmons BP. Guideline for isolation precautions in hospitals. *Infect Control* 1983;4(4 suppl):245-325.
10. Williams WW. Guideline for infection control in hospital personnel. *Infect Control* 1983;4(4 suppl):326-49.

*International Notes***Agranulocytosis Associated with the Use of Amodiaquine for Malaria Prophylaxis**

Seven cases of agranulocytosis associated with the use of amodiaquine (Camoquine®) among British travelers have recently been reported (1). Sixteen additional cases of agranulocytosis from Western Europe associated with the use of amodiaquine have recently been reported to the drug manufacturer, and two U.S. cases have been reported to CDC. Twenty-three of these 25 cases occurred in 1985 or 1986, and seven are reported to have been fatal. Among 20 cases for which the duration of amodiaquine prophylaxis is known, usage ranged from 3 weeks to 24 weeks. In all but four of the 25 cases, amodiaquine was used at the appropriate dosage (adults 400 mg base per week) for prophylaxis. Fourteen of the patients are known to have used another antimalarial drug concurrently for prophylaxis; weekly pyrimethamine-sulfadoxine (Fansidar®) was used in five cases, and daily proguanil (Paludrine®), in nine cases.

Reported by Malaria Br, Div of Parasitic Diseases, Center for Infectious Diseases, Div of Quarantine, Center for Prevention Svcs, CDC.

Editorial Note: Amodiaquine, a 4-aminoquinoline similar to chloroquine in structure and activity, has been used as both an antimalarial and an anti-inflammatory agent for more than 30 years. Only rarely has amodiaquine been associated with agranulocytosis: of 13 reports published between 1955 and 1985, only three were associated with the use of amodiaquine at recommended dosages for malaria prophylaxis in the absence of the use of other drugs known to have similar toxicity (2,3).

The reason for the discrepancy between the previous and recent experiences with amodiaquine is not clear. While previously used largely for treating malaria in endemic areas, amodiaquine has been increasingly recommended for chemoprophylaxis in nonimmune visitors to endemic areas (4,5). It is not known whether bone-marrow toxicity is more likely to occur when the drug is used on a routine weekly basis for prophylaxis or when used in combination with other antimalarials, such as Fansidar® or Paludrine®. Agranulocytosis has been associated with the use of Fansidar® alone (6), but has not been reported when Paludrine® has been used alone.

Alternatively, the recent increase in the number of agranulocytosis cases might be explained by an increase in the number of persons using amodiaquine for malaria prophylaxis. Although amodiaquine is not marketed in the United States, information provided by the manufacturer indicates that the number of Europeans using amodiaquine for malaria prophylaxis may have increased in 1985. In the United Kingdom, amodiaquine became available in March 1985 after a 10-year hiatus in marketing; in Switzerland, a threefold increase in amodiaquine sales was noted from 1984 to 1985.

In April 1985, CDC revised its recommendations for preventing malaria in travelers, because of severe cutaneous reactions associated with the use of Fansidar®, and recommended amodiaquine use for malaria prophylaxis could be considered as an alternative for longer-term travelers at risk of acquiring chloroquine-resistant *Plasmodium falciparum* (CRPF) (7). This recommendation was based on studies showing amodiaquine was somewhat more effective than chloroquine in treating CRPF infections (8) and, therefore, might provide more protection than chloroquine when used as weekly prophylaxis in areas where CRPF transmission occurs. Similarly, the World Health Organization recently suggested the use of amodiaquine as an alternative to chloroquine and recommended that it be used in combination with Paludrine® or Maloprim® (dapsone-pyrimethamine) for travel to certain areas (4).

It is now apparent that any possible prophylactic advantage that amodiaquine may afford

Agranulocytosis — Continued

is not justified by the possible risk of agranulocytosis associated with the use of the drug. CDC, therefore, no longer recommends that amodiaquine be used for prophylaxis. Otherwise, previous recommendations for the prevention of malaria in travelers remain valid (5, 7).

References

1. Hattor CSR, Peto TEA, Bunch C, et al. Frequency of severe neutropenia associated with amodiaquine prophylaxis against malaria. *Lancet* 1986;1:411-4.
2. Lepeu G, Codine P, Janbon F, Bertrand A. Agranulocytose à l'amodiaquine. *Nov Presse Méd* 1981;10:2827-8.
3. Booth K, Larkin K, Maddocks I. Agranulocytosis coincident with amodiaquine therapy. *Br Med J* 1967;3:32-3.
4. World Health Organization. Vaccination certificate requirements and health advice for international travel. 1986;46-8.
5. CDC. Health information for international travel, 1985. Atlanta, Georgia: U.S. Public Health Service, Department of Health and Human Services, 1985; CDC publication no. 85-8280;73-82.
6. Olsen VV, Loft S, Christensen KD. Serious reactions during maiana prophylaxis with pyrimethamine-sulfadoxine. *Lancet* 1982;ii:994.
7. CDC. Revised recommendations for preventing malaria in travelers to areas with chloroquine-resistant *Plasmodium falciparum*. *MMWR* 1985;34:185-90.
8. Watkins WM, Sixsmith DG, Spencer HC, et al. Effectiveness of amodiaquine as treatment for chloroquine-resistant *Plasmodium falciparum* infections in Kenya. *Lancet* 1984;i:357-9.

Current Trends

Update: Influenza Activity — United States

Reports of influenza activity from family physicians, state health departments, and collaborating diagnostic laboratories indicate that U.S. influenza activity is at elevated but declining levels.

Reports of influenza-like cases from the practices of sentinel physicians* for the week ending February 26 averaged 10.4, a decrease from the average of 11.2 reported for the preceding week (Figure 3). Outbreaks of influenza-like illness were reported by 14 states and the District of Columbia for the week ending March 8, a decrease from the 25 states that reported outbreaks the preceding week. Seven states indicated widespread outbreaks; seven states and the District of Columbia indicated regional outbreaks.

Isolates of type B influenza virus have now been reported from every state, and type A(H3N2) influenza viruses, from 31 states during the 1985-1986 influenza season. Incomplete totals for the week ending March 1 include 130 type B and 35 type A(H3N2) isolates; 187 type B and 47 type A(H3N2) viruses were reported for the week ending February 22. Overall, 1,714 influenza virus isolates, including 78.5% type B viruses and 21.5% type A(H3N2) viruses have been reported this season.

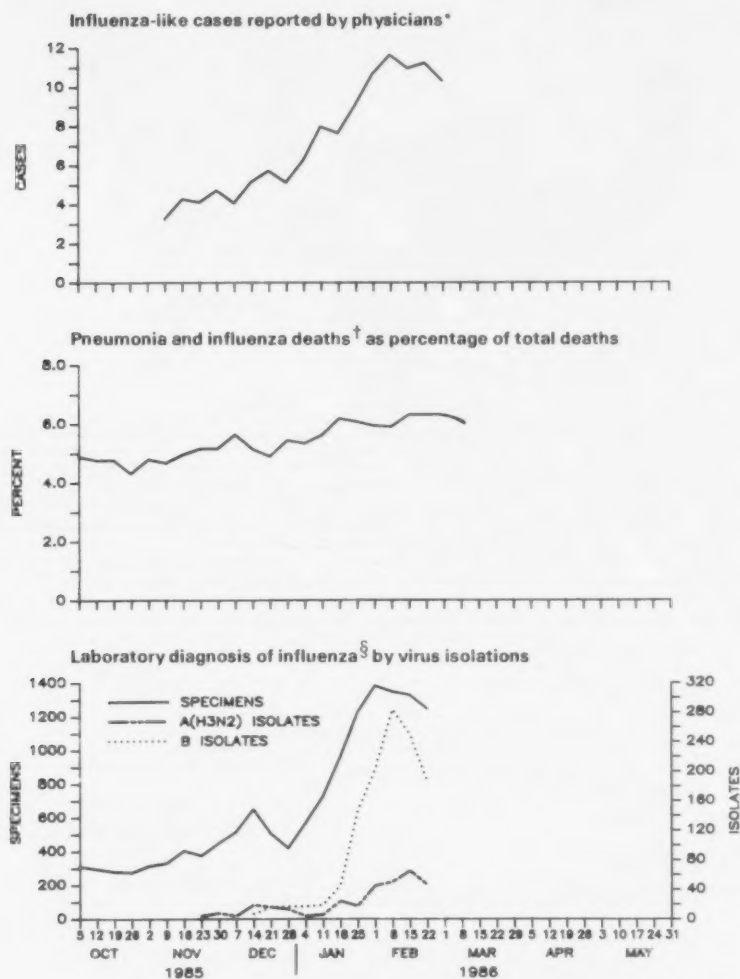
The percentage of pneumonia and influenza (P&I) deaths reported from the 121 U.S. cities for the week ending March 8 was 6.1%, compared with 6.3% for the preceding week. This is the ninth consecutive week that the P&I percentage has exceeded the statistical limit expected in the absence of influenza outbreaks nationwide.

Reported by State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Div of Field Svcs, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

*Cases reported by those members of the American Academy of Family Physicians research panel who serve as sentinel physicians for influenza.

Influenza — Continued

FIGURE 3. Indicators of influenza activity, by week — United States, 1985-1986

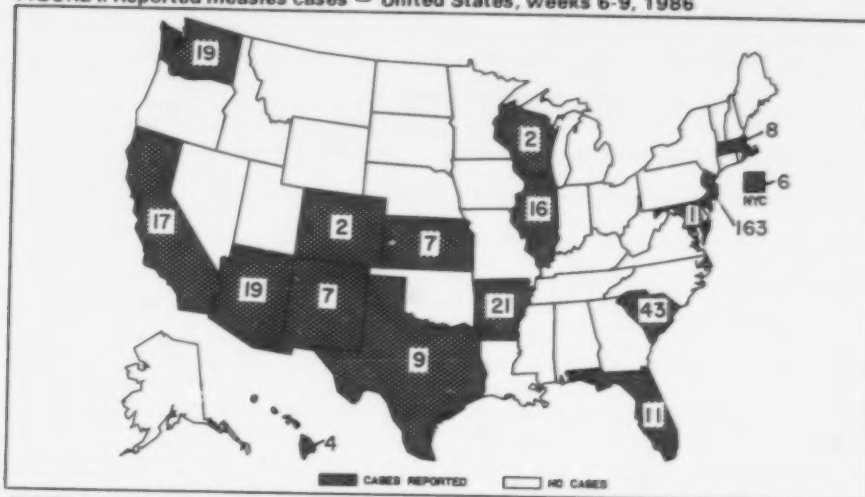


*Reported to CDC by approximately 125 physician members of the American Academy of Family Physicians. A case was defined as a patient with fever 37.8 C (100F) or greater and at least cough or sore throat.

†Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths where pneumonia is listed as a primary or underlying cause or where influenza is listed on the death certificate.

§Reported to CDC by WHO Collaborating Laboratories (including military sources).

FIGURE 1. Reported measles cases — United States, weeks 6-9, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21045 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAROOON DR 376 F 1 **
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101 **

MMWR

- 169 Premature Mortality due to Sudden Infant Death Syndrome
170 ACIP: Update: Prevention of *Haemophilus influenzae* Type b Disease
180 Poliomyelitis — United States, 1975-1984

NEWARK PUBLIC LIBRARY

MORBIDITY AND MORTALITY WEEKLY REPORT

MAY 6 1986

Perspectives in Disease Prevention and Health Promotion, PUBS.

DEPOSITORY 376

Premature Mortality due to Sudden Infant Death Syndrome

Sudden infant death syndrome (SIDS) ranked as the seventh leading cause of years of potential life lost before age 65 (YPLL) in 1984. It accounted for 314,000 (2.4%) YPLL of the total YPLL in that year (see Table V, page 179). In 1984, SIDS accounted for 12.4% of all YPLL from deaths among infants.

Data presented below are from the National Center for Health Statistics (NCHS) Mortality Detail tapes. The latest year for which these tapes are available is 1982. Deaths were attributed to SIDS if the underlying cause of death was classified as category 798.0 in *The International Classification of Diseases, 9th Revision* (ICD-9), and age at death was under 1 year.

In 1979, 340,496 YPLL were attributed to SIDS; in 1980, 355,395; in 1981, 341,528; and in 1982, 340,431. The average YPLL due to SIDS for this 4-year period was 344,462. During this same period, the race- and sex-specific YPLL was 144,319 for white males; 89,752 for white females; 55,873 for black males; 44,424 for black females; 5,644 for other males; and 4,451 for other females. The male:female YPLL ratio for white infants was 1.6:1, compared with 1.3:1 for black and other infants.

YPLL is directly dependent on the number of births in any given group. The average annual YPLL per 1,000 live births is 97.2 for white males; 63.9 for white females; 187.7 for black males; 153.6 for black females; 86.6 for other males; and 72.7 for other females.

Reported by Perinatal Environmental Epidemiology Br, Div of Birth Defects and Developmental Disabilities, Center for Environmental Health, CDC.

Editorial Note: SIDS is defined as the unexpected death of a previously healthy infant between 2 weeks and 1 year of age, unexplained after a complete autopsy examination (1). SIDS usually occurs during the first 6 months of life. The concept and definition of a sudden infant death syndrome were formalized in 1969, and SIDS was not specified as a cause of death until ICD-9 came into use in 1979. Therefore, comparison of YPLL due to SIDS cannot be carried out using vital records for years before 1979.

SIDS is usually a diagnosis of exclusion, theoretically dependent on the performance of a post-mortem examination. Since 1979, the autopsy rate for SIDS in the NCHS Mortality Detail tapes has exceeded 80%. This compares with an autopsy rate of approximately 40% for non-SIDS infant deaths. The higher autopsy rate for SIDS may result from legal requirements in some areas. It is important to note that the death certificate may be completed before the results of the autopsy are available.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

SIDS — Continued

From 1979 to 1982, the YPLL due to SIDS has ranged from 340,000 to 355,000, and the rate of death due to SIDS/1,000 live births ranged from 1.4 to 1.5. This compares with worldwide rates of 0.6/1,000 to 3.0/1,000. In 1980, NCHS recorded the highest U.S. rate of SIDS deaths. This followed the National Institute of Child Health and Human Development SIDS Cooperative Epidemiological Study, which finished interviewing parents in 1980. This may represent increased case finding stimulated by this study.

The etiology of SIDS is unclear, although there are several established risk factors (1). Current theories implicate an abnormality of the autonomic regulation of respiratory and/or cardiovascular function. Whether this is due to genetic or environmental factors, or is prenatal or postnatal in origin, is unknown. Risk factors include sociodemographic and pregnancy-related variables. Siblings of SIDS victims have a tenfold increased risk of SIDS. Blacks and Native Americans have a rate of SIDS two to three times that of whites (2). Preterm and low-birthweight infants, as well as products of multiple gestations, are also at increased risk of SIDS. In many studies, SIDS appears to be seasonal, with increased rates in the winter months (November-March), raising the speculation that respiratory infections may potentiate whatever underlying predisposition may exist.

Prevention of SIDS is hindered by lack of knowledge of the etiology and lack of understanding of which infants are at particularly high risk. Some survivors of episodes of infant apnea ("near misses") and some siblings of SIDS victims are currently being treated with home apnea monitoring and various pharmacologic therapies. The efficacy of these interventions has not been formally evaluated in a randomized clinical trial. In addition, the number of deaths that are potentially preventable using these interventions represents only a small portion of total SIDS deaths. Laboratory research on SIDS is needed to identify high-risk infants and to develop effective prevention measures.

References

1. Peterson DR. Evolution of the epidemiology of sudden infant death syndrome. *Epidemiologic Rev* 1980;2:97-112.
2. Adams MM. The descriptive epidemiology of sudden infant deaths among natives and whites in Alaska. *Am J Epidemiol* 1985;122:637-43.

*Recommendations of the Immunization
Practices Advisory Committee (ACIP)*

Update: Prevention of *Haemophilus influenzae* Type b Disease

Haemophilus influenzae type b (Hib) is the most common cause of bacterial meningitis in the United States. It also causes other serious invasive illnesses, including epiglottitis, sepsis, cellulitis, septic arthritis, osteomyelitis, pericarditis, and pneumonia. By 5 years of age, one of every 200 children in the United States will have had a systemic infection due to Hib. A polysaccharide vaccine against systemic Hib disease was licensed in the United States in April 1985. Information on the vaccine and Immunization Practices Advisory Committee (ACIP) guidelines for its use should be consulted (1). The purpose of this statement is to update these recommendations and to provide guidelines for the prevention of secondary cases of Hib disease.

Haemophilus influenzae — Continued**CHEMOPROPHYLAXIS**

Risk of Secondary Disease. Secondary disease, defined as illness within 1-60 days following contact with a child who has Hib disease, accounts for less than 5% of all invasive Hib disease. However, six studies of household contacts of Hib patients found a secondary attack rate of 0.3% in the month following disease onset in the index patient, which is about 600-fold higher than the age-adjusted risk in the general population (2-7). Among these studies, the attack rate among household contacts varied markedly with age: 4% for children under 2 years of age; 2% for children 2-3 years of age; 0.1% for children 4-5 years of age; and 0% for those over 6 years of age (2-7). Among these household contacts, 64% of secondary cases occurred within the first week (excluding the first 24 hours) of disease onset in the index patient; 20%, during the second week; and 16%, during the third and fourth weeks.

The risk of secondary disease among children who were exposed to a primary case in day-care and who did not receive rifampin prophylaxis has been examined in four studies. A national collaborative study that calculated secondary attack rates for household and day-care classroom contacts found that one (1%) of 91 children under 4 years of age in day-care acquired disease in the month following the index patient, compared with three (2%) of 125 household contacts under 4 years of age (2). A multicenter study in Seattle-King County, Washington; Oklahoma; and Atlanta, Georgia, found that the risk of secondary Hib disease among day-care classroom contacts was age-dependent; 10 (3%) cases occurred among the 376 contacts 0-23 months old, whereas none of the 379 classroom contacts older than 23 months of age acquired secondary disease (8). No cases occurred among children who attended day-care for fewer than 25 hours per week. In this study, classroom contacts were defined as children who spent more than half their day-care time in the same classroom as a child with primary Hib disease in the week before disease onset of the primary case. The overall risk for classroom contacts was 0.7% (10/1,388), 20 times higher than the risk for other children in the center (0.04% [2/5,639]). Thirty-three percent of the secondary cases occurred within 3 weeks of onset of the index case; 13%, between days 21 and 40; and 53%, between days 41 and 60. Meningitis and other systemic Hib infections were equally likely to result in secondary cases.

Two prospective studies have examined the risk of subsequent Hib disease in day-care facilities. In Dallas County, Texas, follow-up for 60 days of classroom contacts revealed no cases of secondary disease in 361 children under 2 years old, and a secondary attack rate of 0.5% (1/213) in those 2-3 years of age (9). Other cases of Hib disease occurred but could not be classified as secondary cases because these children enrolled in the day-care facility after the index patient became ill. Since it is known that rates of asymptomatic transmission are elevated in day-care classrooms with children with Hib disease, some of these cases may have been associated with the index case.

A similar surveillance study was conducted in Minnesota. No cases of secondary Hib disease were found among 370 day-care contacts under 2 years of age; 263 (71%) were classroom contacts. These were defined as children who spent more than 8 hours in the same classroom as the primary case in the week before the patient with primary disease became ill. Similarly, secondary cases were not seen in 716 children 2-3 years of age, of whom 421 (59%) were classroom contacts (10).

The disparities in the risk of day-care-associated secondary Hib disease in Minnesota; Dallas County, Texas; and the two multicenter studies remain unexplained. Possible reasons include differences among the several study areas in day-care characteristics, such as

Haemophilus influenzae — Continued

classroom size and age distribution of children, which might affect intensity and duration of contact. There may be further unrecognized differences in epidemiologic factors or invasiveness of prevalent Hib strains.

Efficacy of Rifampin Prophylaxis. Most children at risk of secondary disease are too young to respond to the Hib polysaccharide vaccine. Therefore, the main preventive measure presently available is rifampin administration. Currently available data from several studies indicate rifampin in a dosage of 20 mg/kg per dose once daily (maximum daily dose 600 mg) for 4 days eradicated Hib carriage in 95% or more of contacts of primary cases, including children in day-care facilities (11-13). In a randomized placebo controlled trial, rifampin in the currently recommended dosage administered to all household and day-care classroom contacts, including adults, significantly decreased secondary Hib disease among household and day-care contacts (none of 303 rifampin-treated contacts under 4 years of age had secondary disease, compared with four of 216 placebo-treated contacts under 4 years of age [$p = 0.03$]) (2); the number of cases was insufficient to evaluate efficacy in the household or day-care setting alone. However, the collaborative study of day-care centers cited above found that among classroom contacts of Hib patients, children aged 0-23 months who received rifampin prophylaxis were significantly less likely to develop secondary disease than children who did not take rifampin (none of 232, compared with 10 [3%] of 376 [$p < 0.02$]) (8). Secondary disease did not develop in day-care classes in which over 75% of the class received rifampin. However, rifampin prophylaxis is unlikely to be 100% effective, and a day-care center in which rifampin prophylaxis failed to prevent subsequent disease has been reported (14).

Implementation of Chemoprophylaxis. Rifampin is available in 150-mg and 300-mg capsules. For those unable to swallow capsules, rifampin may be mixed with several teaspoons of applesauce immediately before administration, resulting in acceptable serum and salivary levels (15). Although there has been more experience with the applesauce mixture, a suspension of rifampin may also be freshly prepared in United States Pharmacopeia syrup; the preparation should be vigorously shaken before use. Side effects of rifampin in the recommended dose include nausea, vomiting, diarrhea, headache, or dizziness, which occurred among 20% of those taking rifampin and 11% of placebo recipients. No serious reactions occurred (2). Those taking rifampin (including parents and day-care staff) should be informed that orange discoloration of urine, discoloration of soft contact lenses, and decreased effectiveness of oral contraceptives can occur.

In implementing chemoprophylaxis in day-care centers, it is important to ensure that all classroom contacts receive rifampin during the same period. Some local and state health departments have facilitated the timely implementation of chemoprophylaxis by coordinating rifampin administration following consultation with private physicians or by providing information to parents of day-care contacts.

VACCINE

Effect of *Haemophilus b* Polysaccharide Vaccine on Nasopharyngeal Carriage. Limited data are available on the effect of the *Haemophilus b* polysaccharide vaccine on nasopharyngeal carriage of the organism. By analogy to carriage studies after serogroups A and C meningococcal polysaccharide vaccination, some reduction in acquisition of carriage may occur shortly after immunization, but no long-term effect has been noted (16-18).

Use of *Haemophilus b* Polysaccharide Vaccine in Children with Preceding Hib Disease. Studies have shown that the development of anticapsular antibodies following invasive Hib dis-

Haemophilus influenzae — Continued

ease is largely age-dependent. A study of acute and convalescent sera from 125 patients with meningitis, septicemia, or epiglottitis due to Hib determined that, among those who acquired disease when they were younger than 18 months, 41 (85%) of 48 failed to develop an adequate antibody response, in contrast to 18 (23%) of 77 of those older than 18 months (19). Cases have been reported in which children who do not mount an antibody response after an invasive episode of Hib have developed a second systemic infection with the organism (20).

RECOMMENDATIONS

The primary strategy for preventing Hib disease is immunization. Children should be vaccinated at 24 months of age. Those at high risk for Hib disease, including children attending day-care, may be given the vaccine at 18 months of age. ACIP guidelines for use of the vaccine should be consulted (1). This update addresses chemoprophylaxis (recommendations 1-7) and additional vaccine issues (recommendations 8 and 9).

Chemoprophylaxis. Although unexplained disparities in available data prevent a precise estimate of the magnitude of risk among day-care contacts, it is likely that the increased risk of disease observed among young household contacts is also present among day-care classroom contacts under 2 years of age. Since rifampin prophylaxis is effective in preventing subsequent cases in this high-risk group, the ACIP recommends that:

1. Contacts of all ages who develop symptoms suggestive of invasive Hib disease, such as fever or headache, be evaluated promptly by a physician.
2. In any household in which a case of invasive Hib disease has occurred and in which another child under 4 years of age resides, all members of the household, including adults, should receive rifampin according to the following regimen: rifampin in a dosage of 20 mg/kg per dose once daily (maximal daily dose 600 mg) for 4 days; the dose for neonates (under 1 month of age) is 10 mg/kg once daily for 4 days.
3. In day-care classrooms in which a case of Hib disease has occurred and in which another child under 2 years of age has been exposed, all parents should be notified (preferably in writing) regarding the occurrence of the case and the possibility of increased risk to their children. They should be informed about the symptoms and the need for prompt medical evaluation if symptoms occur. They should also be notified of the availability of rifampin prophylaxis. Although the data on which to base recommendations are not optimal, and some authorities disagree, the consensus of the ACIP is as follows: In a day-care classroom in which a case of systemic Hib disease has occurred, and in which one or more children under 2 years old have been exposed, strong consideration should be given to administering rifampin prophylaxis to all children and staff in the classroom, regardless of age.
4. Rifampin should not be used in pregnant women, as its effect on the fetus has not been established, and it is teratogenic in laboratory animals.
5. Chemoprophylaxis should be instituted as rapidly as possible. If more than 14 days have passed since the last contact with the index patient, the benefit of chemoprophylaxis is likely to be decreased.
6. All children convalescing from systemic Hib disease who are anticipated to resume close contact with other young children, at home or in day-care, should receive rifampin immediately after completing treatment for their illness. Therapy for systemic disease does not reliably eradicate respiratory carriage of Hib, and some physicians may wish to give rifampin to all index patients.

Haemophilus influenzae — Continued

7. In day-care classrooms in which children are to receive chemoprophylaxis, children who have received the Haemophilus b polysaccharide vaccine should also receive rifampin. Although these children are felt to be at decreased risk for disease, the vaccine probably does not affect carriage of the organism, which they may pass on to susceptible classmates.
8. Children who have had invasive Hib disease when they were under 24 months of age should still receive the vaccine according to previous recommendations, since most children under 24 months of age fail to mount an immune response to the clinical disease.
9. Satisfactory response to the vaccine is not consistent among children 18-23 months of age, and most authorities believe that these children should be revaccinated. Although data on the precise timing of this second dose are not currently available, it would be reasonable to reimmunize 2-12 months after the initial dose but not before 24 months of age. Previous immunization does not change the immune response or adverse reaction to a subsequent dose of the vaccine (21).

(Continued on page 179)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	11th Week Ending			Cumulative, 11th Week Ending		
	Mar. 15, 1986	Mar. 16, 1985	Median 1981-1985	Mar. 15, 1986	Mar. 16, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	327	56	N	2,455	1,138	N
Aseptic meningitis	86	91	77	894	749	874
Encephalitis: Primary (arthropod-borne & unsp.)	23	24	22	175	184	178
Post-infectious	2	3	2	10	26	16
Gonorrhea: Civilian	15,360	15,154	16,906	163,747	163,077	192,513
Military	350	335	342	3,268	4,032	5,248
Hepatitis: Type A	441	440	470	4,761	4,382	4,886
Type B	498	505	490	4,922	5,026	4,750
Non A, Non B	73	95	N	629	865	N
Unspecified	108	173	173	1,134	1,042	1,495
Legionellosis	7	12	N	106	142	N
Leprosy	11	2	3	57	88	47
Malaria	12	13	13	137	140	140
Measles: Total*	217	43	68	733	282	289
Indigenous	214	34	N	701	221	N
Imported	3	9	N	32	61	N
Meningococcal infections: Total	67	81	81	688	683	726
Civilian	67	81	81	687	682	726
Military	-	-	-	1	1	2
Mumps	35	98	112	550	780	921
Pertussis	30	38	31	420	297	271
Rubella (German measles)	11	19	41	92	70	224
Syphilis (Primary & Secondary): Civilian	461	379	586	4,998	5,049	6,464
Military	6	5	N	44	34	84
Toxic Shock syndrome	7	5	N	57	86	N
Tuberculosis	451	410	434	3,839	3,790	4,351
Tularemia	2	1	-	15	22	18
Typhoid fever	5	1	5	46	44	72
Typhus fever, tick-borne (RMSF)	-	1	1	8	6	10
Rabies, animal	81	88	112	867	837	975

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	10
Botulism: Foodborne	3	Plague	-
Infant (Calif. 1)	12	Poliovirus, Paralytic	-
Other	-	Psittacosis (Colo. 1, Hawaii 1)	-
Brucellosis (Calif. 2)	11	Rabies, human	12
Cholera	-	Tetanus (Ga. 1)	-
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	7
Diphtheria	-		1

*Three of the 217 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
March 15, 1986 and March 16, 1985 (11th Week)

Reporting Area	AIDS	Aseptic Menin- gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA, NB	Unspeci- fied		
	Cum. 1986	1986	Cum. 1986	Cum. 1986	Cum. 1986	Cum. 1985	1986	1986	1986	1986	1986	Cum. 1986
UNITED STATES	2,455	86	175	10	163,747	163,077	441	498	73	108	7	57
NEW ENGLAND	112	5	7	-	3,815	5,231	14	45	5	6	1	1
Maine	4	1	-	-	184	215	1	5	-	-	-	-
N.H.	3	1	2	-	113	119	4	2	1	-	-	-
Vt.	2	1	2	-	62	48	3	1	-	-	-	-
Mass.	62	-	2	-	1,583	1,880	2	24	2	5	-	1
R.I.	9	1	-	-	337	406	-	4	1	1	-	-
Conn.	32	1	1	-	1,536	2,563	4	9	1	-	-	-
MID ATLANTIC	885	18	32	-	27,731	21,929	21	59	7	25	-	5
Upstate N.Y.	93	10	12	-	3,378	3,220	11	43	4	1	-	-
N.Y. City	571	2	7	-	15,907	9,194	1	1	1	21	-	5
N.J.	153	5	2	-	3,246	4,682	9	15	2	3	-	-
Pa.	68	1	11	-	5,200	4,833	-	-	-	-	-	-
E.N. CENTRAL	121	10	31	2	21,689	24,054	16	21	6	2	-	3
Ohio	30	2	10	2	6,169	6,050	6	7	-	1	-	-
Ind.	16	4	2	-	3,475	2,211	1	4	1	-	-	-
Ill.	42	2	3	-	3,009	7,364	8	4	1	-	-	2
Mich.	28	2	15	-	7,471	6,817	1	6	4	1	-	1
Wis.	5	-	1	-	1,565	1,612	-	-	-	-	-	-
W.N. CENTRAL	53	4	3	1	7,680	8,540	8	9	-	-	3	1
Minn.	26	1	1	-	1,074	1,326	2	3	-	-	-	1
Iowa	4	-	2	-	770	920	-	1	-	-	1	-
Mo.	13	3	-	-	3,676	3,895	3	2	-	-	2	-
N. Dak.	2	-	-	-	82	68	-	-	-	-	-	-
S. Dak.	1	-	-	-	139	155	3	-	-	-	-	-
Nebr.	3	-	-	-	567	730	-	3	-	-	-	-
Kans.	4	-	-	1	1,372	1,446	-	-	-	-	-	-
S. ATLANTIC	345	9	31	6	35,770	35,265	44	75	6	8	1	-
Del.	7	-	3	-	728	719	3	2	1	-	-	-
Md.	31	1	9	-	5,037	5,485	2	15	1	2	-	-
D.C.	59	-	-	-	3,168	2,968	-	1	-	-	-	-
Va.	42	1	12	-	3,719	3,756	15	11	2	-	-	-
W. Va.	1	-	4	-	485	443	-	7	-	-	-	-
N.C.	20	-	2	-	6,858	7,117	1	8	1	1	1	-
S.C.	14	-	-	-	3,971	4,470	-	7	1	-	-	-
Ga.	21	1	-	-	-	-	4	13	-	-	-	-
Fla.	150	6	1	6	11,804	10,307	19	11	-	5	-	-
E.S. CENTRAL	26	13	15	-	14,806	14,339	14	46	4	1	1	-
Ky.	7	1	6	-	1,721	1,579	-	3	-	-	-	-
Tenn.	12	3	1	-	5,900	5,639	13	13	3	1	-	-
Ala.	3	9	8	-	4,022	4,396	1	22	1	-	1	-
Miss.	4	-	-	-	3,163	2,725	-	8	-	-	-	-
W.S. CENTRAL	207	7	11	-	21,763	23,446	64	56	6	15	1	5
Ark.	7	-	-	-	1,974	2,274	4	2	-	-	-	-
La.	31	1	1	-	3,812	5,003	-	11	-	1	-	-
Okl.	2	1	3	-	2,493	2,308	3	4	2	-	-	-
Tex.	167	5	7	-	13,484	13,863	57	39	4	14	1	5
MOUNTAIN	70	3	10	1	5,520	5,355	32	32	4	7	-	7
Mont.	1	1	-	1	132	170	-	-	-	-	-	-
Idaho	1	-	-	-	183	181	2	3	-	-	-	-
Wyo.	2	-	2	-	123	148	1	-	-	-	-	-
Colo.	35	1	2	-	1,456	1,554	3	2	-	4	-	3
N. Mex.	4	-	-	-	596	654	5	2	-	-	-	-
Ariz.	17	-	4	-	1,601	1,589	15	17	4	3	-	2
Utah	5	-	1	-	236	230	3	5	-	-	-	-
Nev.	6	1	1	-	1,193	829	3	3	-	-	-	2
PACIFIC	636	17	35	-	24,973	24,916	228	155	35	44	-	35
Wash.	21	1	2	-	1,908	1,892	14	17	5	-	-	5
Oreg.	14	-	-	-	932	1,407	20	11	4	-	-	-
Calif.	585	14	31	-	21,127	20,628	192	121	26	44	-	29
Alaska	7	-	2	-	724	612	1	6	-	-	-	-
Hawaii	9	2	-	-	282	377	1	-	-	-	-	1
Guam	-	-	-	-	7	33	-	1	-	1	-	-
P.R.	22	3	2	-	489	830	3	2	-	-	-	-
V.I.	-	-	-	-	47	86	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	12	146	13	-	-	-	-	-
Amer. Samoa	-	-	-	-	8	-	1	2	-	-	-	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 15, 1986 and March 16, 1985 (11th Week)

Reporting Area	Malaria	Measles (Rubeola)					Men- ingococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		1986	Cum 1986	1986	Cum 1986										
UNITED STATES	137	214	701	3	32	282	688	35	550	30	420	297	11	92	70
NEW ENGLAND	8	-	9	-	-	3	52	1	9	2	28	13	-	-	4
Maine	-	-	-	-	-	-	11	-	-	-	2	2	-	-	-
NH	-	-	-	-	-	-	3	-	4	-	7	7	-	-	2
VT	1	-	-	-	-	-	7	-	-	-	1	1	-	-	-
Mass	3	-	9	-	-	3	9	-	-	-	8	2	-	-	2
RI	1	-	-	-	-	-	4	1	4	-	1	1	-	-	-
Conn	3	-	-	-	-	-	18	-	1	2	7	-	-	-	-
MID ATLANTIC	21	162	363	-	3	17	123	9	43	2	59	47	1	21	14
Upstate N.Y.	1	-	1	-	2	7	33	6	16	1	39	25	-	14	6
N.Y. City	7	11	28	-	1	8	32	-	1	-	5	7	-	6	6
N.J.	2	171	334	-	-	2	18	1	13	-	1	1	1	2	3
Pa	11	-	-	-	-	-	40	2	13	1	15	14	-	-	-
E.N. CENTRAL	4	-	48	-	-	83	85	7	255	7	100	57	-	1	6
Ohio	1	-	-	-	-	11	39	2	40	7	52	13	-	-	-
Ind	-	-	-	-	-	-	9	-	12	-	9	11	-	-	-
Ill	2	-	21	-	-	4	20	-	129	-	8	9	-	-	-
Mich	1	-	-	-	-	34	17	5	37	-	11	5	-	-	5
Wis	-	-	27	-	-	34	-	-	37	-	20	19	-	1	1
W.N. CENTRAL	3	4	55	-	-	2	30	2	20	-	23	27	-	2	6
Minn	1	-	-	-	-	-	7	-	1	-	11	10	-	-	-
Iowa	1	-	-	-	-	-	4	-	5	-	4	1	-	-	-
Mo	1	-	-	-	-	2	14	2	6	-	3	6	-	1	-
N. Dak	-	-	-	-	-	-	-	-	1	-	2	4	-	-	-
S. Dak	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-
Kans	-	4	55	-	-	-	2	-	6	-	3	5	-	1	6
S. ATLANTIC	19	21	93	-	2	9	144	3	51	11	85	58	1	6	8
Del	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md	3	-	4	-	-	1	18	-	3	-	18	16	-	-	1
D.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Va	6	-	-	-	-	5	29	-	6	2	8	1	-	-	-
W. Va	-	-	-	-	-	-	2	1	20	-	2	-	-	-	-
N.C.	2	-	-	-	-	-	16	-	4	-	12	6	-	-	-
S.C.	-	20	78	-	-	-	22	-	4	-	2	-	-	-	2
Ga	2	-	-	-	1	-	15	1	4	9	38	19	-	-	4
Fla	6	1	11	-	1	2	39	1	10	-	5	14	1	6	1
E.S. CENTRAL	4	-	-	-	-	-	35	-	5	-	11	3	-	1	1
Ky	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn	-	-	-	-	-	-	15	-	1	-	2	1	-	-	-
Ala	2	-	-	-	-	-	12	-	1	-	8	1	-	-	-
Miss	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-
W.S. CENTRAL	5	-	30	1	12	2	41	4	41	-	18	19	4	17	10
Ark	-	-	21	-	-	-	2	1	3	-	-	7	-	-	1
La	1	-	-	-	-	-	4	-	-	-	2	-	-	-	-
Okla	1	-	-	-	-	-	8	N	N	-	16	12	-	-	-
Tex	3	-	9	1	12	2	27	3	38	-	-	-	4	17	9
MOUNTAIN	5	1	34	-	5	113	31	2	60	6	58	16	-	-	1
Mont	-	-	-	-	1	113	4	-	2	-	-	2	-	-	-
Idaho	1	-	-	-	-	-	1	-	2	-	13	-	-	-	-
Wyo	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo	1	-	-	-	2	-	6	-	4	-	12	7	-	-	-
N. Mex	-	-	13	-	-	-	4	N	N	1	8	2	-	-	-
Ariz	2	1	21	-	-	-	9	2	48	-	19	2	-	-	1
Utah	-	-	-	-	-	-	3	-	1	5	6	3	-	-	-
Nev	1	-	-	-	-	-	2	-	3	-	-	-	-	-	-
PACIFIC	68	6	69	2	10	53	147	7	66	2	40	59	5	44	20
Wash	5	-	19	2	6	1	21	-	4	1	17	9	-	-	-
Oreg	7	-	-	-	2	-	13	N	N	-	2	5	-	-	1
Calif	56	2	40	-	2	46	108	6	55	1	18	42	5	44	17
Alaska	-	-	-	-	-	-	5	-	2	-	1	1	-	-	-
Hawaii	-	4	10	-	-	-	6	-	5	-	2	2	-	-	2
Guam	1	-	1	-	-	10	-	-	1	-	-	-	-	1	1
P.R.	1	-	-	-	-	38	1	-	11	-	2	1	-	-	4
V.I.	-	-	-	-	-	9	-	2	5	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 15, 1986 and March 16, 1985 (11th Week)

Reporting Area	Syphilis (Civikan) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1986	Cum. 1985		Cum. 1986	Cum. 1985				
UNITED STATES	4,998	5,049	7	3,839	3,790	15	46	8	867
NEW ENGLAND	116	116	-	109	133	-	2	1	-
Maine	7	3	-	12	11	-	-	-	-
N.H.	6	3	-	3	6	-	-	-	-
Vt.	4	-	-	6	-	-	-	-	-
Mass.	61	62	-	51	77	-	1	1	-
R.I.	5	4	-	5	16	-	-	-	-
Conn.	33	44	-	32	23	-	1	-	-
MID ATLANTIC	734	633	1	757	744	-	4	-	102
Upstate N.Y.	38	31	-	108	95	-	1	-	13
N.Y. City	421	417	1	376	411	-	3	-	-
N.J.	145	131	-	138	51	-	-	-	-
Pa.	130	54	-	135	187	-	-	-	89
E.N. CENTRAL	128	246	-	529	480	-	4	-	12
Ohio	28	25	-	78	89	-	-	-	1
Ind.	26	17	-	61	55	-	-	-	3
Ill.	29	132	-	230	223	-	-	-	2
Mich.	30	60	-	127	89	-	3	-	2
Wis.	15	12	-	32	24	-	1	-	4
W.N. CENTRAL	57	65	-	94	102	5	3	-	106
Minn.	8	19	-	20	19	-	1	-	9
Iowa	4	11	-	11	17	-	-	-	28
Mo.	30	21	-	46	43	4	2	-	10
N. Dak.	2	-	-	3	2	-	-	-	34
S. Dak.	-	4	-	2	5	-	-	-	25
Nebr.	8	1	-	3	4	-	-	-	-
Kans.	6	9	-	9	12	-	-	-	-
S. ATLANTIC	1,284	1,299	2	745	751	3	4	3	239
Del.	10	12	-	7	8	-	-	-	-
Md.	98	107	-	45	71	1	-	-	156
D.C.	81	69	-	33	34	-	-	-	-
Va.	108	71	2	57	50	1	-	-	36
W. Va.	3	2	-	30	18	-	-	-	6
N.C.	129	150	-	115	79	-	2	2	-
S.C.	157	171	-	97	103	-	-	1	6
Ga.	-	-	-	88	115	1	-	-	29
Fla.	698	717	-	273	273	-	2	-	6
E.S. CENTRAL	354	456	-	360	326	3	-	2	34
Ky.	23	16	-	89	71	2	-	1	9
Tenn.	164	120	-	102	90	1	-	-	14
Ala.	123	167	-	127	122	-	-	1	11
Miss.	44	153	-	42	43	-	-	-	-
W.S. CENTRAL	1,143	1,240	4	457	370	3	1	2	84
Ark.	51	89	-	48	29	2	-	-	17
La.	189	229	-	107	58	-	-	-	3
Okla.	37	43	4	41	50	1	-	-	8
Tex.	866	899	-	261	233	-	1	2	56
MOUNTAIN	145	171	-	81	88	-	2	-	162
Mont.	3	1	-	5	5	-	-	-	64
Idaho	1	2	-	4	2	-	-	-	-
Wyo.	-	4	-	-	1	-	-	-	66
Colo.	44	41	-	1	3	-	-	-	-
N. Mex.	17	17	-	10	14	-	-	-	2
Ariz.	61	97	-	38	36	-	1	-	30
Utah	4	2	-	4	2	-	1	-	-
Nev.	15	7	-	10	5	-	-	-	-
PACIFIC	1,037	823	-	707	816	1	28	-	128
Wash.	16	29	-	45	36	-	2	-	-
Oreg.	25	24	-	29	24	-	-	-	-
Calif.	986	754	-	583	679	-	22	-	125
Alaska	-	-	-	12	37	1	-	-	3
Hawaii	10	16	-	38	40	-	2	-	-
Guam	1	2	-	-	6	-	-	-	-
P.R.	179	196	-	58	61	-	-	-	7
V.I.	-	-	-	-	1	-	-	-	-
Pac. Trust Terr.	-	13	-	3	16	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 15, 1986 (11th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	791	556	161	33	21	20	94	S. ATLANTIC	1,390	902	290	110	31	54	87
Boston, Mass.	180	116	44	12	3	5	34	Atlanta, Ga.	185	117	34	25	8	1	7
Bridgeport, Conn.	54	34	13	2	1	4	4	Baltimore, Md.	229	152	51	18	1	7	7
Cambridge, Mass.	26	24	2	-	-	-	3	Charlotte, N.C.	69	47	15	4	1	2	2
Fall River, Mass.	24	20	4	-	-	-	-	Jacksonville, Fla.	132	82	32	4	6	7	11
Hartford, Conn.	115	83	22	5	3	2	11	Miami, Fla.	111	61	31	14	2	3	3
Lowell, Mass.	32	27	3	1	1	-	3	Norfolk, Va.	80	43	20	9	-	8	7
Lynn, Mass.	23	16	7	-	-	-	2	Richmond, Va.	93	63	18	5	2	5	10
New Bedford, Mass.	28	19	5	3	1	-	-	Savannah, Ga.	72	53	10	4	2	3	8
New Haven, Conn.	56	37	12	5	1	1	4	St. Petersburg, Fla.	119	102	13	1	-	3	11
Providence, R.I.	72	51	14	2	1	4	8	Tampa, Fla.	87	52	19	5	2	7	8
Somerville, Mass.	10	7	3	-	-	-	1	Washington, D.C.	179	102	44	19	6	8	13
Springfield, Mass.	52	38	6	2	3	3	6	Wilmington, Del.	34	28	3	2	1	-	-
Waterbury, Conn.	44	31	10	-	3	-	9								
Worcester, Mass.	75	53	16	1	4	1	8								
MID ATLANTIC	2,772	1,920	511	207	66	66	177	E.S. CENTRAL	755	473	190	45	27	19	41
Albany, N.Y.	54	40	10	1	1	2	2	Birmingham, Ala.	137	84	34	7	7	5	7
Allentown, Pa.	20	17	2	1	-	-	1	Chattanooga, Tenn.	56	41	12	2	-	1	4
Buffalo, N.Y.	104	78	19	6	-	1	11	Knoxville, Tenn.	106	73	21	6	4	2	7
Camden, N.J.	49	33	11	3	-	2	1	Louisville, Ky.	93	52	34	6	-	1	3
Elizabeth, N.J.	25	20	3	2	-	-	-	Memphis, Tenn.	94	60	26	4	3	1	6
Erie, Pa.†	48	35	8	2	2	1	6	Mobile, Ala.	73	42	16	8	3	3	7
Jersey City, N.J.	41	24	9	5	1	2	4	Montgomery, Ala.	60	39	9	3	6	3	1
N.Y. City, N.Y.	1,396	924	257	142	37	36	80	Nashville, Tenn.	136	82	38	9	4	3	6
Newark, N.J.	102	58	20	10	9	4	5								
Paterson, N.J.	35	23	8	1	1	2	6	W.S. CENTRAL	1,423	983	243	92	58	46	71
Philadelphia, Pa.	302	209	64	17	6	6	14	Austin, Tex.	53	38	6	5	2	2	3
Pittsburgh, Pa.†	102	75	21	2	1	3	7	Baton Rouge, La.	47	28	12	5	2	-	1
Reading, Pa.	39	33	3	-	3	1	3	Corpus Christi, Tex.	52	34	10	6	1	1	3
Rochester, N.Y.	144	111	26	4	3	-	15	Dallas, Tex.	216	116	56	28	11	3	9
Schenectady, N.Y.	36	29	6	-	1	-	-	El Paso, Tex.	79	53	16	3	2	5	5
Scranton, Pa.†	38	32	4	1	1	-	2	Fort Worth, Tex.	89	61	18	5	4	3	6
Syracuse, N.Y.	148	110	28	5	3	1	11	Houston, Tex. §	314	282	6	5	10	11	5
Trenton, N.J.	27	19	4	1	-	3	1	Little Rock, Ark.	95	60	18	7	4	5	10
Utica, N.Y.	30	25	4	1	-	-	4	New Orleans, La.	137	88	30	12	1	6	2
Yonkers, N.Y.	32	25	4	3	-	-	6	San Antonio, Tex.	185	122	35	10	12	6	17
								Shreveport, La.	58	34	15	3	4	2	5
								Tulsa, Okla.	98	67	21	3	5	2	5
E.N. CENTRAL	2,571	1,803	463	147	65	92	156	MOUNTAIN	742	483	148	69	20	22	45
Akron, Ohio	61	40	10	5	4	2	3	Albuquerque, N.Mex.	105	66	17	12	8	2	8
Canton, Ohio	33	24	7	1	-	1	6	Colorado Springs, Colo.	38	27	4	4	1	2	5
Chicago, Ill. §	553	462	11	26	16	37	16	Denver, Colo.	137	86	35	10	1	5	8
Cincinnati, Ohio	161	103	43	7	5	3	17	Las Vegas, Nev.	90	57	18	12	2	1	1
Cleveland, Ohio	197	125	52	14	3	3	10	Ogden, Utah	17	12	3	1	-	1	2
Columbus, Ohio	128	86	28	12	1	1	3	Phoenix, Ariz.	180	115	36	18	5	6	7
Dayton, Ohio	148	100	41	4	3	-	10	Pueblo, Colo.	26	20	2	4	-	-	3
Detroit, Mich.	312	184	80	30	9	9	13	Salt Lake City, Utah	35	17	12	3	2	1	1
Evansville, Ind.	49	34	11	2	1	1	2	Tucson, Ariz.	114	83	21	5	1	4	11
Fort Wayne, Ind.	69	41	13	4	1	10	4								
Gary, Ind.	18	13	2	2	-	1	-	PACIFIC	1,791	1,182	377	128	50	44	123
Grand Rapids, Mich.	108	77	14	4	6	7	15	Berkeley, Calif.	12	9	2	1	-	-	-
Indianapolis, Ind.	222	138	57	15	5	7	4	Fresno, Calif.	82	60	12	4	1	5	8
Madison, Wis.	37	19	9	6	2	1	6	Glendale, Calif.	15	11	4	-	-	-	1
Milwaukee, Wis.	149	116	22	3	4	4	6	Honolulu, Hawaii	68	50	10	5	1	2	3
Peoria, Ill.	35	23	9	2	-	1	5	Long Beach, Calif.	96	67	22	3	-	4	22
Rockford, Ill.	38	25	9	2	-	4	4	Los Angeles, Calif.	384	233	91	37	11	4	14
South Bend, Ind.	69	52	11	2	-	4	11	Oakland, Calif.	66	44	14	5	2	1	3
Toledo, Ohio	108	78	21	6	3	-	16	Pasadena, Calif.	45	28	9	4	3	1	3
Youngstown, Ohio	76	63	13	-	-	-	5	Portland, Oreg.	122	81	27	7	3	4	9
								Sacramento, Calif.	136	85	25	13	8	5	16
W.N. CENTRAL	726	531	118	32	27	18	54	San Diego, Calif.	166	114	31	10	5	6	19
Des Moines, Iowa	35	29	4	1	-	1	4	San Francisco, Calif.	163	98	37	20	5	1	6
Duluth, Minn.	29	27	-	1	-	1	3	San Jose, Calif.	177	111	49	11	1	5	11
Kansas City, Kans.	38	24	9	2	3	-	1	Seattle, Wash.	150	108	24	8	9	1	4
Kansas City, Mo.	110	76	23	3	4	4	8	Spokane, Wash.	60	46	11	-	1	2	3
Lincoln, Nebr.	32	27	4	-	-	1	3	Tacoma, Wash.	49	37	9	-	-	3	1
Minneapolis, Minn.	67	46	14	4	2	1	5								
Omaha, Nebr.	95	65	17	4	6	3	9								
St. Louis, Mo.	167	125	17	15	7	3	4								
St. Paul, Minn.	75	60	10	-	1	4	9								
Wichita, Kans.	78	52	20	2	4	-	8								
								TOTAL	12,961	8,833	2,501	863	365	381	848

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES (Total)	11,761,000	866.7
Unintentional injuries§ (E800-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E978)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity¶ (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*For details of calculation, see footnotes for Table V, *MMWR* 1986;35:27.

†Cause-specific mortality rates as reported in the MVSR are compiled from a 10% sample of all deaths.

§Equivalent to accidents and adverse effects.

¶Category derived from disorders relating to short gestation and respiratory distress syndrome.

Haemophilus influenzae — Continued**References**

1. ACIP. Polysaccharide vaccine for prevention of *Haemophilus influenzae* type b disease. *MMWR* 1985;34:201-5.
2. Band JD, Fraser DW, Ajello G. Prevention of *Haemophilus influenzae* type b disease. *JAMA* 1984;251:2381-6.
3. Ward JI, Fraser DW, Baraff LJ, Plikaytis BD. *Haemophilus influenzae* meningitis. A national study of secondary spread in household contacts. *N Engl J Med* 1979;301:122-6.
4. Glode MP, Daum RS, Goldmann DA, Leclair J, Smith A. *Haemophilus influenzae* type b meningitis: a contagious disease of children. *Br Med J* 1980;280:899-901.
5. Filice GA, Andrews JS Jr, Hudgins MP, Fraser DW. Spread of *Haemophilus influenzae*. Secondary illness in household contacts of patients with *H. influenzae* meningitis. *Am J Dis Child* 1978;132:757-9.

Haemophilus influenzae — Continued

6. Granoff DM, Basden M. *Haemophilus influenzae* infections in Fresno County, California: a prospective study of the effects of age, race, and contact with a case on incidence of disease. *J Infect Dis* 1980;141:40-6.
7. Campbell LR, Zedd AJ, Michaels RH. Household spread of infection due to *Haemophilus influenzae* type b. *Pediatrics* 1980;66:115-7.
8. Fleming DW, Leibenhaut MH, Albanes D, et al. Secondary *Haemophilus influenzae* type b in day-care facilities. Risk factors and prevention. *JAMA* 1985;254:509-14.
9. Murphy TV, Clements JF, Hansen EJ. Subsequent disease risk in day care facilities with a primary case of *H. influenzae* b disease. Twenty-fifth Interscience Conference on Antimicrobial Agents and Chemotherapy. 1985;214 (abstract #668).
10. Osterholm MT, Pierson LM, White KE, Libby TA, Kuritsky JN. The risk of subsequent transmission of *Haemophilus influenzae* type b disease in day care: Results of a statewide surveillance system and contact survey. Twenty-fifth Interscience Conference on Antimicrobial Agents and Chemotherapy. 1985;214 (abstract #667).
11. Gessert C, Granoff DM, Gilsdorf J. Comparison of rifampin and ampicillin in day care center contacts of *Haemophilus influenzae* type b disease. *Pediatrics* 1980;66:1-4.
12. Shapiro ED, Wald ER. Efficacy of rifampin in eliminating pharyngeal carriage of *Haemophilus influenzae* type b. *Pediatrics* 1980;66:5-8.
13. Cox F, Trinchler R, Rissing JP, McCracken GH Jr, Granoff DM. Rifampin prophylaxis for contacts of *Haemophilus influenzae* type b. *JAMA* 1981;245:1043-5.
14. Murphy TV, McCracken GH Jr, Moore BS, Gulig PA, Hansen EJ. *Haemophilus influenzae* type b disease after rifampin prophylaxis in a day care center: possible reasons for its failure. *Pediatr Infect Dis* 1983;2:193-8.
15. McCracken GH Jr, Ginsburg CM, Zweighaft TC, Clahsen J. Pharmacokinetics of rifampin in infants and children: relevance to prophylaxis against *Haemophilus influenzae* type b disease. *Pediatrics* 1980;66:17-21.
16. Wahdan MH, Sallam SA, Hassan MN, et al. A second controlled field trial of a serogroup A meningococcal polysaccharide vaccine in Alexandria. *Bull WHO* 1977; 55:645-51.
17. Artenstein MS, Gold R, Zimmerly JG, Wyle FA, Schneider H, Harkins C. Prevention of meningococcal disease by group C polysaccharide vaccine. *N Engl J Med* 1970;282:417-20.
18. Greenwood BM, Hassan-King M, Whittle HC. Prevention of secondary cases of meningococcal disease in household contacts by vaccination. *Br Med J* 1978;1:1317-9.
19. Kayhty H, Jousimies-Somer H, Peltola H, Makela PH. Antibody response to capsular polysaccharides of groups A and C *Neisseria meningitidis* and *Haemophilus influenzae* type b during bacteremic disease. *J Infect Dis* 1981;143:32-41.
20. O'Reilly RJ, Anderson P, Ingram DL, Peter G, Smith DH. Circulating polyribophosphate in *Haemophilus influenzae*, type b meningitis. Correlation with clinical course and antibody response. *J Clin Invest* 1975;56:1012-22.
21. Kayhty H, Karanko V, Peltola H, Makela PH. Serum antibodies after vaccination with *Haemophilus influenzae* type b capsular polysaccharide and responses to reimmunization: no evidence of immunologic tolerance or memory. *Pediatrics* 1984;74:857-65.

Current Trends**Poliomyelitis — United States, 1975-1984**

In September 1985, CDC-selected consultants individually reviewed clinical, laboratory, and epidemiologic data on 150 suspected cases of poliomyelitis reported to CDC from 1975-1984. CDC's Division of Immunization, Center for Prevention Services, and Division of Virology, Center for Infectious Diseases, had tentatively determined that 121 cases met the

Poliomyelitis — Continued

case definition for paralytic poliomyelitis.* Overall, 118 cases were accepted by the consultants as cases and classified according to an epidemiologic classification system established in 1975 that provides "epidemic," "endemic," "imported," and "immune-deficient" categories (Table 1).

Compared to the average of 15,822 cases per year during 1951-1955, the period directly preceding the widespread availability and use of polio vaccines, U.S. cases averaged 15 per year during 1975-1979 and declined to nine per year during 1980-1984. Of the total 118 cases for 1975-1984, 10 (8%) were epidemic cases, i.e., were epidemiologically linked with another case(s), all from a 1979 epidemic caused by a wild type 1 poliovirus; 12 (10%) were imported cases among U.S. citizens with illness onset before or after return to the United States; and 11 (9%) were cases occurring among persons with primary immunodeficiencies. One of these latter cases, which occurred in 1981 in a nontraveler, was the last case of endemic, wild-virus poliomyelitis in the United States. The remaining 85 (72%) cases were endemic, i.e., were not epidemiologically linked to another case(s); 71 (60%) were epidemiologically associated with vaccine usage. Of the 71 vaccine-associated cases, 30 (42%) oc-

*Since 1969, the CDC definition of a case of paralytic poliomyelitis has been a patient with paralysis clinically and epidemiologically compatible with poliomyelitis who, at 60 days after onset of symptoms, has a residual neurologic deficit, has died, or for whom no information is available on neurologic residua.

TABLE 1. Epidemiologic classification of reported poliomyelitis cases, by year — United States, 1975-1984

Category	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	10-year	Total
											Sub-total	
Epidemic												10
No OPV	0	0	0	0	10*	0	0	0	0	0	10	
OPV received	0	0	0	0	0	0	0	0	0	0	0	
Endemic												85
Not vaccine-associated	3	1	4	2	1	1	0	1	0	1	14	
OPV recipient	0	2	3	3	6	2†	1	3	7	3	30	
OPV contact											41	
(Household)	3§	3	6	1	4	1	3	3	3	1	(28)	
(Nonhousehold)	0	0	5¶	1	1	1	2	2	1	0	(13)	
Imported	4**	2	2	1	0	2	0	0	0	1	12	12
Immune-deficient	3	2	0	0	0	2	1††	1	1	1	11	11
Total	13	10	20	8	22	9	7	10	12	7		118

*Outbreak among Amish caused by type 1 poliovirus.

†One patient received OPV on same day as twin and had onset 38 days later.

§One patient had poliovirus type 3 and ECHO 9 isolated from stool.

¶One patient with severe persistent paralysis had coxsackie B1 isolated from pharynx; however, clinical findings met CDC case definition of paralytic poliomyelitis.

**One patient had onset 2 months before returning to the United States.

††Wild type poliovirus isolated (source unknown).

Poliomyelitis — Continued

curred among vaccine recipients, and 41 (58%), among contacts of vaccine recipients. Fourteen (40%) of the endemic cases were not epidemiologically associated with vaccine; however, five had virus isolates characterized definitively as vaccine-related.

Reported by Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Continuing transmission of wild virus-caused paralytic poliomyelitis has been eliminated in the United States using the currently recommended immunization policy of the Immunization Practices Advisory Committee (ACIP), which relies primarily on oral polio vaccine (OPV) use for the primary immunization series (1). From 1980 to 1984, only three of 45 cases (two imported and one immune-deficient) were documented as wild by strain characterization of poliovirus isolates. A third imported case was presumed epidemiologically to be caused by a wild poliovirus. Otherwise, the rare cases of reported paralytic poliomyelitis in the United States have been vaccine-associated.

The risk of vaccine-associated paralytic poliomyelitis, based on 85 cases occurring in immunologically normal recipients and contacts and the distribution of an estimated 274.1 million doses of OPV during 1973-1984, is one case per 3.22 million doses of OPV distributed.

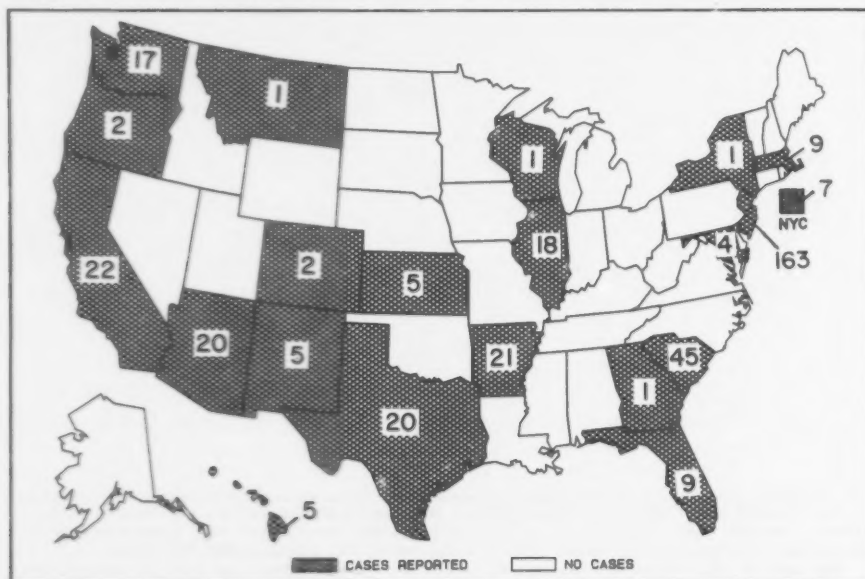
When all 104 vaccine-associated cases (85 among immunologically normal recipients and contacts; 13 among immune-deficient recipients and contacts; and six others, patients from whom a vaccine-like virus was isolated) from this same period are included, the overall vaccine-associated risk is one case per 2.64 million doses of OPV distributed.

At the October 24-25, 1985, meeting of the ACIP, issues concerning polio vaccines and current polio vaccination policy in the United States were reviewed. Discussion included live polio vaccine and both the currently available inactivated polio vaccine (IPV) and a more potent IPV not currently available in the United States. The issues discussed included seroconversion, intestinal immunity, duration of immunity, replication of poliovirus in the intestine, safety, immunization coverage, seroprevalence, the current epidemiology of poliomyelitis in the United States, and the estimated likelihood of wild poliovirus introduction. In light of the data reviewed, the ACIP concluded that no change in the basic U.S. approach to poliomyelitis (primary reliance on OPV with selected use of IPV [1]) is warranted currently but that the subject should be reviewed on a continuing basis.

Reference

1. ACIP. Poliomyelitis prevention. MMWR 1982;31:22-6, 31-4.

FIGURE 1. Reported measles cases — United States, weeks 7-10, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21046 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101



MMWR

March 28, 1986 / Vol. 35 / No. 12

MORBIDITY AND MORTALITY WEEKLY REPORT PUBLIC LIBRARY

- 185 Leading Work-Related Diseases and Injuries — United States
- 188 Years of Potential Life Lost Attributable to Low Birthweight—United States, 1980 Birth Cohort
- 195 AIDS in Correctional Facilities: A Report of the National Institute of Justice and the American Correctional Association

Perspectives in Disease Prevention and Health Promotion

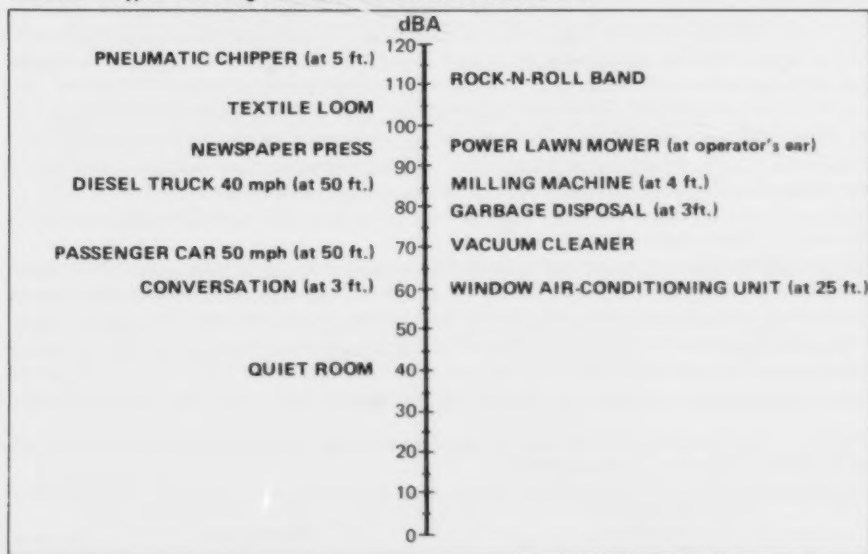
Leading Work-Related Diseases and Injuries — United States

The National Institute for Occupational Safety and Health (NIOSH) has developed a suggested list of 10 leading work-related diseases and injuries (1). The first seven categories have been described (1-7); this article focuses on the eighth category, noise-induced loss of hearing.

NOISE-INDUCED LOSS OF HEARING

Occupational deafness was first documented among metalworkers in the sixteenth century (8). Since then, workers have experienced excessive hearing loss in many occupations associated with noise. Typical occupational and nonoccupational noise levels are shown in Figure 1. Noise-induced loss of hearing is an irreversible, sensorineural condition that progresses with exposure. Although hearing ability declines with age (presbycusis) in all populations, exposure

FIGURE 1. Typical A-weighted noise levels in decibels (dBA)*



*The decibel is a logarithmic measure of sound intensity; the "A-weighted scale" is used to weight the various frequency components of the noise to approximate the response of the human ear.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

READER
FICHE

best copy available

HE 20.7009:

Leading Work-Related Diseases and Injuries — Continued

to noise produces hearing loss higher than that resulting from the natural aging process; this is caused by damage to nerve cells of the inner ear (cochlea) and, unlike some conductive hearing disorders, cannot be treated medically.

While loss of hearing may result from a single exposure to a very brief impulse noise or explosion, such traumatic losses are rare. In most cases, noise-induced hearing loss is insidious. Typically, it begins to develop at 4,000 hertz (Hz, or cycles per second) in the hearing range of 20 Hz to 20,000 Hz and spreads to lower and higher frequencies. Often, material impairment has occurred before the condition is clearly recognized.

Such impairment is usually severe enough to permanently affect a person's ability to hear and understand speech under everyday conditions. Although the primary frequencies of human speech range from 200 Hz to 2,000 Hz, research has shown that the consonant sounds, which enable people to distinguish words such as "fish" from "fist," have still higher frequency components. As a result, an average hearing threshold (lowest audible sound level) at separate frequencies of 1,000 Hz, 2,000 Hz, and 3,000 Hz is used widely to define material impairment caused by noise (10, 11).

Recent estimates by the Occupational Safety and Health Administration (OSHA) indicate that about 9,400,000 U.S. production workers (7,900,000 active and 1,500,000 retired) either now work or have worked in industrial locations where noise-exposure levels are 80 decibels (dBA) or higher. This estimate includes most noisy workplaces in the United States, except agricultural, mining, construction, transportation, and government (Table 1) (17). At exposure levels below 80 decibels (weighted to the approximate response of the human ear, dBA), an increased risk of hearing loss caused by occupational noise has not been found. Based on the average hearing threshold level at 1,000 Hz, 2,000 Hz, and 3,000 Hz, OSHA estimated that 1,624,000 (17%) production workers have at least mild hearing loss resulting from their occupational noise exposures; 1,060,000 (11%) have material hearing impairment; and 473,000 (5%) have moderate to severe impairment (Table 2) (17). These estimates generally agree with NIOSH survey findings, which indicate that one-fourth of persons 55 years of age or older who have been exposed over their working lifetime to an average of about 90 dBA have developed a material hearing impairment caused by occupational noise exposure (10, 12). An estimated \$835 million will be paid in workers' compensation claims for occupational hearing impairment for the 10-year period 1978-1987 (13).

Reported by Physical Agents Effects Br, Div of Biomedical and Behavioral Science, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Occupational noise-induced loss of hearing is preventable. In its 1990 objectives for the nation, the U.S. Public Health Service set an objective that "By 1990, the prevalence of occupational noise-induced hearing loss should be reduced to 415,000 cases" (14). This objective relates to the number of cases of hearing loss that result in moderate to severe impairment (Table 2). However, it is important to note that if the number of moderate to severe impairments is reduced, the number of mild hearing loss and of material impairments

TABLE 1. Distribution of 9,368,000 production workers who had noise-exposure levels of 80 dBA or greater* — United States

Noise-exposure level (dBA)	No. workers
80-85	3,305,000
86-90	2,656,000
91-95	1,936,000
96-100	985,000
>100	506,000

*From the 1981 OSHA Final Regulatory Analysis for the Hearing Conservation Amendment.

Leading Work-Related Diseases and Injuries — Continued

would be reduced proportionately. OSHA has estimated that within 10 years, the number of cases of noise-induced hearing impairment can be reduced by 20% if all workers exposed to noise levels higher than 85 dBA wear personal hearing protectors (earplugs or muffs) and receive on the average 15 dBA noise reduction (17). However, this estimate hinges on effective use of hearing protectors to an extent that has not yet been demonstrated for all workers. NIOSH field investigations of industrial workers who routinely use earplugs indicate average noise reduction ranging from 7 dBA to 20 dBA, depending on the type of plug used (15).

A noise-control/hearing-conservation program is the most important step in eliminating occupational hearing loss. Such a program must include:

1. Reduction of noise through engineering controls and the purchase of new, noise-engineered equipment.
2. Proper fit of personal hearing-protection devices.
3. Education of workers and managers about certain characteristics of noise-induced loss of hearing (e.g., irreversible, subtle in onset, psychologically distressing).
4. Proper periodic audiometric testing and notification of workers who are developing hearing loss.
5. Visible commitment of management and workers to the program.

The joint efforts of management, labor, and health-care providers are needed to establish effective hearing-conservation programs in industry. All interested groups must work together to achieve the goal of protecting workers' hearing.

References

1. CDC. Leading work-related diseases and injuries—United States. MMWR 1983;32:24-6, 32.
2. CDC. Leading work-related diseases and injuries—United States. MMWR 1983;32:189-91.
3. CDC. Leading work-related diseases and injuries—United States. MMWR 1984;33:125-8.
4. CDC. Leading work-related diseases and injuries—United States. MMWR 1984;33:213-5.
5. CDC. Leading work-related diseases and injuries—United States. MMWR 1985;34:219-22, 227.
6. CDC. Leading work-related diseases and injuries—United States. MMWR 1985;34:537-40.
7. CDC. Leading work-related diseases and injuries—United States. MMWR 1986;35:113-6, 121-3.
8. Alberti (1591), cited by Bunch CC. Traumatic deafness. In: Fowler EP Jr, ed. Medicine of the ear, Chapter X (Reprinted, Translations of the Beltone Institute for Hearing Research, No. 23, 1970).
9. Michael PL. Physics of sound. In: NIOSH. The industrial environment—its evaluation and control. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1973.
10. NIOSH. Criteria for a recommended standard . . . occupational exposure to noise. Department of Health, Education, and Welfare, Health Services and Mental Health Administration; 1972. NIOSH publication no. HSM 73-11001.

TABLE 2. Hearing levels (dB) of 9,368,000 production workers who had noise-exposure levels of 80 dBA or greater* — United States

Hearing threshold level (1,000, 2,000, and 3,000 Hz)	Cumulative cases (%)	Expected cases † (%)	Excess cases ‡ (%)
> 15 dB (mild hearing loss)	3,735,000 (40%)	2,111,000 (23%)	1,624,000 (17%)
> 25 dB (material hearing impairment)	2,025,000 (22%)	965,000 (10%)	1,060,000 (11%)
> 40 dB (moderate to severe hearing impairment)	718,000 (8%)	245,000 (3%)	473,000 (5%)

*From the OSHA 1981 Final Regulatory Analysis for the Hearing Conservation Amendment.

†Based on hearing levels of a nationwide sample of adults in U.S. Public Health Service hearing surveys.

‡Cumulative cases minus expected cases.

Leading Work-Related Diseases and Injuries — Continued

11. Occupational Safety and Health Administration. Final regulatory analysis of the hearing conservation amendment. Department of Labor, 1981, GPO No. 723-860/752 1-3.
12. Schmidek ME, Layne MA, Lempert BL, Fleming RF. Survey of hearing conservation programs in industry. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1975; HEW publication no. NIOSH 75-178.
13. Ginnold RE. Occupational hearing loss. Workers compensation under state and federal programs. Environmental Protection Agency report no. EPA 550/9-79-101, 1979.
14. U.S. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, D.C.: Department of Health and Human Services, 1980:39-43.
15. Lempert BL, Edwards RG. Field investigations of noise reduction afforded by insert-type hearing protectors. *Am Ind Hyg Assoc J* 1983;12:894-902.

Years of Potential Life Lost Attributable to Low Birthweight — United States, 1980 Birth Cohort

To determine the years of potential life lost before age 65 (YPLL) attributable to low birthweight for all causes of infant mortality, cause- and birthweight-specific mortality data were examined from CDC's National Infant Mortality Surveillance (NIMS) project for singleton births in 1980. This is the most recent file of birthweight-specific infant mortality for the United States.

For the 1980 birth cohort, all states, the District of Columbia, New York City, and Puerto Rico linked birth and infant death certificates and provided CDC with tabulations of deaths by birthweight and other characteristics, including *The International Classification of Diseases, 9th Revision* (ICD-9), codes for underlying cause of death. For each reporting area, the number of live births for calculation of mortality rates was obtained from computer tapes of national natality data prepared by the National Center for Health Statistics (NCHS).*

This analysis included only those singleton infants with known birthweight, in three groups: 500-1,499 grams (very low birthweight [VLBW]); 1,500-2,499 grams (intermediate low birthweight [ILBW]); and 2,500 grams or more. Underlying causes of death were aggregated into 10 categories using a modification of previously described classification schemes (Table 3) (1,2). To calculate YPLL, an average age at death of 3.3 days and 127 days was used for neonatal (under 28 days) and postneonatal (28-365 days) deaths, respectively, reflecting the actual age distribution of deaths to infants born in 1980. For each cause of death, the percentage of infant deaths attributable to the increased risk of death associated with VLBW and ILBW (population-attributable risk) (3) was calculated, using the rate of death among infants 2,500 grams or more as the referent.[†] This percentage was then applied to the total YPLL from each cause of infant death to determine YPLL attributable to VLBW and ILBW.[§]

The neonatal mortality rates were 362.1, 23.1, and 2.0 deaths/1,000 live births, and the postneonatal mortality rates were 64.6, 12.3, and 2.8 deaths/1,000 neonatal survivors for VLBW, ILBW, and 2,500-gram or more infants, respectively. These calculations are based on 30,919 VLBW infants, 176,812 ILBW infants, and 3,324,881 infants weighing 2,500 grams or more.

A total of 2,257,988 YPLL was due to infant deaths. Neonatal deaths accounted for

*Data from Puerto Rico are not included in this analysis. For New Mexico, number of births was obtained from state computer tapes rather than NCHS tapes.

[†]Population-attributable risk = $D - (BR) / T$, where D = number of deaths due to a specific cause in a low birthweight category (VLBW or ILBW); B = number of births in a specific birthweight category; R = cause-specific death rate for infants with birthweight 2,500 grams or more; and T = total number of cause-specific infant deaths.

[§]YPLL = $T(65 - [A/365.25])$, where A = average age at death, in days.

YPLL — Continued

63.3%, and postneonatal deaths, for 36.7%, of total YPLL; 802,326 (35.5%) YPLL were attributable to VLBW; and 347,773 (15.4%), to ILBW. The increased risk of death associated with low birthweight (VLBW plus ILBW) accounted for 67.5% of YPLL due to neonatal deaths and 22.3% of YPLL due to postneonatal deaths.

The leading causes of YPLL were perinatal conditions,[¶] congenital anomalies, sudden infant death syndrome (SIDS), and infections (Table 3). The pattern was similar for YPLL attributable to low birthweight, except that infections were more prominent than SIDS. There were 414,116 YPLL due to causes coded by ICD-9 as prematurity, low birthweight, or respiratory distress syndrome, including 344,093 (83.1%) YPLL attributable to VLBW and 47,737 (11.5%) YPLL attributable to ILBW.

Reported by state health departments of all 50 states, New York City, District of Columbia, and Puerto Rico; Pregnancy Epidemiology Br, Research and Statistics Br, Div of Reproductive Health, Center for Health Promotion and Education, CDC.

Editorial Note: Many infant deaths could probably be prevented by better application of existing technologies and skills (7). The importance of this public health problem is highlighted through the use of YPLL to assess infant mortality, because deaths early in life are weighted heavily in the calculation of YPLL (4).

Data in this report are derived by linking birth and infant death records by states and reported to the NIMS project. This linkage is estimated to include 95% of reported infant deaths. The number of YPLL attributable to low birthweight depends on the proportion of infants with VLBW and ILBW, their mortality rate, and their relative risk of death compared to infants with birthweight of 2,500 grams or more. YPLL calculated in this manner is less than the YPLL for VLBW and ILBW infants, because not all deaths among them are attributable to the risk associated with low birthweight alone. Use of the population-attributable risk to estimate the proportion of YPLL attributed to low birthweight allows a description of the increase in risk of death associated with VLBW and ILBW. This approach permits assessment of both

[¶] "Perinatal conditions" refers to conditions classified by ICD-9 (codes 760-779, excluding congenital infections) as originating in the perinatal period and does not refer to the time of death.

TABLE 3. Years of potential life lost before age 65 (YPLL) attributable to increased risk of death associated with birthweights 500-1,499 grams and 1,500-2,499 grams, by cause of infant death — United States, 1980.

Underlying cause of death	Total	Birthweight-attributable YPLL		
		500-1,499 g	1,500-2,499 g	500-2,499 g (%) ^a
Prematurity/LBW/respiratory distress syndrome	414,116	344,093	47,737	391,829 (94.6)
Other perinatal, respiratory	137,172	80,542	14,253	94,795 (69.1)
Birth trauma/asphyxia	133,725	63,415	15,997	79,412 (59.4)
Other perinatal	245,095	173,907	26,894	200,800 (81.9)
Subtotal perinatal	930,108	661,957	104,881	766,838 (82.4)
Infections	189,836	31,424	35,615	67,039 (35.3)
Congenital anomalies	542,326	65,740	142,819	208,559 (38.5)
Injuries	77,745	2,118	5,811	7,929 (10.2)
SIDS	324,754	7,779	34,462	42,241 (13.0)
Other	157,301	28,542	18,925	47,467 (30.2)
Unknown/nonspecific	35,919	4,767	5,260	10,027 (27.9)
Total^a	2,257,988	802,326	347,773	1,150,099 (50.9)

^aSubtotals and totals may not add to values in table because of rounding.

YPLL — Continued

the importance of individual causes of death and the contribution of low birthweight to each cause of infant mortality.

YPLL due to congenital anomalies and SIDS in this report differs somewhat from two recent CDC reports, because a different age at death was used in calculations (5,6). Congenital anomalies contribute substantially to YPLL overall (24.0%), and YPLL attributable to low birthweight (38.5%). Because certain congenital anomalies may increase the risk of low birthweight, some of the YPLL attributable to low birthweight among infants with congenital anomalies may be more properly attributed to the congenital anomaly per se.

Infants with low birthweight may continue to be at an increased risk of death through the fourth year of life (7). Thus, the actual YPLL due to low birthweight is higher than the estimates presented here, which are limited to infant deaths (under 1 year).

Although infants with VLBW and ILBW represent less than 6% of newborns with known birthweight of 500 grams or more, they account for approximately half of YPLL due to infant deaths. Efforts to reduce infant deaths will depend to a high degree on the prevention of low birthweight (8).

(Continued on page 195)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	12th Week Ending			Cumulative, 12th Week Ending		
	Mar 22, 1986	Mar 23, 1985	Median 1981-1985	Mar 22, 1986	Mar 23, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	148	88	N	2,620	1,228	N
Asplenic meningitis	71	70	71	965	819	945
Encephalitis: Primary (arthropod-borne & unspecified)	16	22	22	191	206	201
Post-infectious	3	3	3	13	28	20
Gonorrhea: Civilian	14,524	15,765	16,931	178,389	178,842	209,889
Military	395	264	394	3,654	4,296	5,547
Hepatitis: Type A	380	455	455	5,155	4,837	5,294
Type B	510	560	461	5,438	5,585	5,211
Non A, Non B	72	75	N	707	939	N
Unspecified	64	118	169	1,196	1,160	1,671
Legionellosis	13	7	N	119	149	N
Leprosy	3	7	4	60	95	50
Malaria	21	14	14	158	154	154
Measles: Total*	134	55	55	878	337	433
Indigenous	132	46	N	842	287	N
Imported	2	9	N	36	70	N
Meningococcal infections: Total	68	53	90	757	736	819
Civilian	68	53	90	756	735	819
Military	-	-	-	1	1	2
Mumps	65	158	127	618	938	1,003
Pertussis	26	58	33	455	355	318
Rubella (German measles)	21	10	28	114	80	250
Syphilis (Primary & Secondary): Civilian	482	536	591	5,480	5,585	7,055
Military	5	3	4	49	37	86
Toxic Shock syndrome	7	3	N	64	89	N
Tuberculosis	449	389	421	4,285	4,178	4,830
Tularemia	1	1	1	16	23	22
Typhoid fever	2	6	6	48	60	78
Typhus fever, tick-borne (RMSF)	3	3	1	11	9	11
Rabies, animal	47	83	145	931	920	1,120

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1985
Anthrax	-	Leptospirosis (Mo. 1)	11
Botulism: Foodborne	3	Plague	-
Infant	12	Polioomyelitis, Paralytic	-
Other	-	Psittacosis (Ohio 1)	13
Brucellosis (Tenn 1)	12	Rabies, human	-
Cholera	-	Tetanus	7
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	1
Diphtheria	-		

*Two of the 134 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
March 22, 1986, and March 23, 1985 (12th Week)

Reporting Area	AIDS Cum 1986	Aseptic Meningi- tis 1986	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis 1986	Leprosy Cum 1986
			Primary	Post-in- fectious	Cum 1986	Cum 1985	A	B	NA/NB	Unspeci- fied		
UNITED STATES	2,620	71	191	13	178,389	178,842	380	510	72	64	13	60
NEW ENGLAND	112	3	8	-	4,157	5,785	10	47	2	8	-	1
Maine	4	-	-	-	200	232	-	2	-	-	-	-
NH	4	-	2	-	118	125	2	-	1	-	-	-
VT	2	-	2	-	73	51	-	1	-	-	-	-
Mass	62	-	2	-	1,714	2,191	3	23	1	7	-	1
RI	9	2	-	-	416	432	2	2	-	-	-	-
Conn	31	1	2	-	1,636	2,764	3	19	-	1	-	-
MID ATLANTIC	923	10	35	-	30,509	23,776	21	28	5	10	-	5
Upstate N.Y.	93	4	12	-	3,703	3,556	3	6	2	1	-	-
N.Y. City	573	1	9	-	17,589	9,944	3	1	-	7	-	5
N.J.	189	1	3	-	3,536	5,119	11	11	2	1	-	-
Pa.	88	4	11	-	5,702	5,157	4	11	1	1	-	-
E.N. CENTRAL	143	6	36	2	23,383	26,176	15	40	3	7	2	3
Ohio	30	1	13	2	6,717	6,956	4	21	-	9	2	-
Ind.	16	1	3	-	3,601	2,306	1	4	1	2	-	-
Ill.	64	-	3	-	3,379	7,681	7	2	1	-	-	2
Mich.	28	4	16	-	8,097	7,483	3	13	1	-	-	1
Wis.	5	-	1	-	1,589	1,750	-	-	-	-	-	-
W.N. CENTRAL	59	4	3	1	8,432	9,085	13	24	3	1	1	1
Minn.	28	-	1	-	1,205	1,326	5	4	1	-	-	1
Iowa	5	2	2	-	853	981	-	2	2	-	-	-
Mo.	15	2	-	-	3,961	4,199	3	18	-	1	-	-
N. Dak.	2	-	-	-	83	72	2	-	-	-	-	-
S. Dak.	1	-	-	-	185	166	2	-	-	-	1	-
Nebr.	3	-	-	-	605	802	1	-	-	-	-	-
Kans.	5	-	-	1	1,560	1,539	-	-	-	-	-	-
S. ATLANTIC	361	20	33	9	39,363	38,707	33	103	15	5	4	1
Del.	8	1	3	-	782	807	1	2	-	-	-	-
Md.	36	-	9	-	5,206	5,117	1	4	-	-	-	-
D.C.	59	-	-	-	3,414	3,263	1	1	-	-	-	-
Va.	45	-	14	-	4,096	4,041	6	20	4	-	-	1
W. Va.	1	-	2	-	556	527	1	1	1	1	-	-
N.C.	21	2	4	-	7,984	7,910	4	12	3	2	2	-
S.C.	14	-	-	-	4,396	4,761	-	17	-	-	-	-
Ga.	27	-	-	-	-	-	2	17	-	-	-	-
Fla.	150	17	1	9	12,929	11,281	17	29	7	2	4	-
E.S. CENTRAL	27	4	15	-	16,013	15,727	8	17	4	-	-	-
Ky.	7	-	6	-	1,840	1,783	2	1	1	-	-	-
Tenn.	12	1	1	-	6,400	6,127	2	12	-	-	-	-
Ala.	4	3	9	-	4,385	4,890	2	4	1	-	-	-
Miss.	4	-	-	-	3,388	2,927	2	-	2	-	-	-
W.S. CENTRAL	241	4	13	-	23,507	26,204	46	29	6	12	4	5
Ark.	7	-	-	-	2,093	2,490	-	2	-	-	-	-
La.	31	1	1	-	4,188	5,456	-	2	-	-	-	-
Okla.	10	-	4	-	2,701	2,639	8	4	3	4	2	-
Tex.	193	3	8	-	14,525	15,619	38	21	2	8	2	5
MOUNTAIN	74	5	10	1	5,854	5,824	35	33	6	6	1	7
Mont.	1	-	-	1	146	186	-	-	1	-	-	-
Idaho	1	-	-	-	193	209	2	-	-	-	-	-
Wyo.	2	-	2	-	132	157	1	-	1	-	-	-
Colo.	35	1	2	-	1,672	1,707	4	1	1	3	-	3
N. Mex.	6	-	-	-	631	702	3	5	-	-	1	-
Ariz.	17	1	4	-	1,730	1,727	17	14	3	2	-	2
Utah	6	1	1	-	257	248	4	6	-	-	-	-
Nev.	5	2	1	-	1,193	886	4	7	-	1	-	2
PACIFIC	680	15	38	-	27,171	27,558	199	189	29	15	1	37
Wash.	21	-	2	-	2,024	2,084	14	21	7	-	1	5
Oreg.	14	-	-	-	1,023	1,533	37	11	2	-	-	-
Calif.	627	15	34	-	23,037	22,850	147	152	20	15	-	31
Alaska	8	-	2	-	778	694	1	3	-	-	-	-
Hawaii	10	-	-	-	309	417	-	2	-	-	-	1
Guam	-	-	-	-	13	37	-	-	-	-	-	-
PR	22	2	3	-	516	842	2	4	-	2	-	-
VI	-	-	U	-	47	84	U	U	U	U	U	-
Pac. Trust Terr.	-	-	-	-	17	146	16	-	-	1	-	-
Amer. Samoa	-	-	-	-	8	-	1	1	-	-	-	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 22, 1986, and March 23, 1985 (12th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *	Total										
		Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986
UNITED STATES	158	132	842	2	36	337	757	65	618	26	455	355	21	114	80
NEW ENGLAND	9	-	9	-	-	4	56	2	11	-	28	16	-	-	5
Maine	-	-	-	-	-	-	11	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	1	5	-	9	9	-	-	2
Vt.	1	-	-	-	-	-	8	-	-	-	1	2	-	-	-
Mass.	4	-	9	-	-	4	10	-	-	-	8	2	-	-	3
R.I.	1	-	-	-	-	-	6	-	4	-	1	1	-	-	-
Conn.	3	-	-	-	-	-	18	1	2	-	7	-	-	-	-
MID ATLANTIC	22	23	386	-	3	24	128	6	45	3	66	48	-	22	15
Upstate N.Y.	2	-	1	-	2	12	35	1	17	1	40	26	-	14	5
N.Y. City	7	23	51	-	1	10	33	4	5	-	5	7	-	5	7
N.J.	2	-	334	-	-	2	18	-	9	-	4	1	-	3	3
Pa.	11	-	-	-	-	-	42	1	14	2	17	14	-	-	-
E.N. CENTRAL	4	-	58	-	1	90	92	16	278	10	112	60	-	1	8
Ohio	1	-	-	-	-	11	43	3	43	7	59	13	-	-	-
Ind.	-	-	-	-	-	1	10	2	14	-	9	11	-	-	-
Ill.	2	-	21	-	-	4	21	9	138	2	11	10	-	-	2
Mich.	1	-	-	-	-	39	18	1	38	-	11	6	-	-	5
Wis.	-	-	37	-	1	35	-	1	45	1	22	20	-	1	1
W.N. CENTRAL	3	6	61	-	-	3	36	2	22	3	27	28	-	2	6
Minn.	1	-	-	-	-	1	9	-	1	3	15	10	-	-	-
Iowa	1	-	-	-	-	-	4	-	5	-	4	1	-	-	-
Mo.	1	-	-	-	-	2	17	1	7	-	3	7	-	1	-
N. Dak.	-	-	-	-	-	-	-	1	2	-	2	4	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	4	-	-	-	-	1	-	-	-
Kans.	-	6	61	-	-	-	2	-	6	-	3	5	-	1	6
S. ATLANTIC	21	62	155	-	2	12	162	4	55	5	90	87	-	6	10
Del.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md.	3	-	4	-	-	1	19	-	3	2	20	21	-	-	1
D.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Va.	6	-	-	-	-	7	32	-	6	1	9	1	-	-	-
W. Va.	-	-	-	-	-	-	2	2	22	-	2	-	-	-	-
N.C.	3	-	-	-	-	-	22	-	4	-	12	6	-	-	-
S.C.	-	62	140	-	-	-	22	1	5	-	2	-	-	-	2
Ga.	2	-	-	-	1	-	21	-	4	2	39	45	-	-	4
Fla.	7	-	11	-	1	3	41	1	11	-	6	14	-	6	3
E.S. CENTRAL	4	-	-	-	-	-	37	-	5	1	12	3	-	1	1
Ky.	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn.	-	-	-	-	-	-	16	-	1	-	2	1	-	-	-
Ala.	2	-	-	-	-	-	12	-	1	1	9	1	-	-	-
Miss.	-	-	-	-	-	-	3	-	1	-	-	-	-	-	-
W.S. CENTRAL	13	7	37	-	12	2	51	9	50	1	19	24	7	24	10
Ark.	-	-	21	-	-	-	5	-	3	-	-	7	-	-	1
La.	4	-	-	-	-	-	4	-	-	1	3	1	-	-	-
Okl.	1	2	2	-	-	-	9	N	N	-	16	16	-	-	-
Tex.	8	5	14	-	12	2	33	9	47	-	-	-	7	24	9
MOUNTAIN	5	1	35	-	5	146	34	21	81	2	60	18	-	-	1
Mont.	-	-	-	-	1	115	4	-	2	-	-	2	-	-	-
Idaho	1	-	-	-	-	-	1	-	2	-	13	-	-	-	-
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo.	1	-	-	-	2	-	7	-	4	2	14	8	-	-	-
N. Mex.	-	-	13	-	2	-	4	N	N	-	8	2	-	-	-
Ariz.	2	1	22	-	-	31	10	21	69	-	19	3	-	-	1
Utah	-	-	-	-	-	-	4	-	1	-	6	3	-	-	-
Nev.	1	-	-	-	-	-	2	-	3	-	-	-	-	-	-
PACIFIC	77	33	101	2	13	56	161	5	71	1	41	71	14	58	24
Wash.	5	4	22	-	7	1	21	-	4	1	18	9	-	-	-
Oreg.	8	-	-	-	2	-	13	N	N	-	2	15	-	-	1
Calif.	64	23	63	2†	4	49	121	5	60	-	18	44	14	58	21
Alaska	-	-	-	-	-	-	5	-	2	-	1	1	-	-	-
Hawaii	-	6	16	-	-	6	1	-	5	-	2	2	-	-	2
Guam	1	-	1	-	-	10	-	-	1	-	-	-	1	2	1
P.R.	1	-	-	-	-	39	2	2	14	-	2	1	-	-	4
V.I.	-	U	-	U	-	9	-	U	5	U	-	-	U	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable [†]International [‡]Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 22, 1986, and March 23, 1985 (12th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	5,480	5,585	7	4,285	4,178	16	48	11	931
NEW ENGLAND	120	127	-	124	143	-	2	1	-
Maine	8	3	-	14	13	-	-	-	-
NH	8	3	-	2	6	-	-	-	-
Vt	4	-	-	6	-	-	1	1	-
Mass	62	71	-	59	85	-	-	-	-
RI	6	4	-	5	16	-	-	-	-
Conn	34	46	-	38	23	-	1	-	-
MID ATLANTIC	811	720	-	840	828	-	5	-	112
Upstate N.Y.	40	45	-	133	107	-	1	-	14
N.Y. City	463	455	-	400	448	-	4	-	-
N.J.	163	158	-	150	63	-	-	-	-
Pa	145	62	-	157	210	-	-	-	98
EN. CENTRAL	146	274	-	580	514	-	4	-	12
Ohio	31	29	-	83	98	-	-	-	1
Ind	26	17	-	67	63	-	-	-	3
Ill	39	149	-	258	234	-	-	-	2
Mich	35	67	-	139	94	-	3	-	2
Wis	15	12	-	33	25	-	1	-	4
W.N. CENTRAL	60	73	3	111	113	6	3	-	116
Minn	8	19	1	23	19	-	1	-	13
Iowa	4	11	-	11	17	-	-	-	29
Mo	33	28	2	59	52	5	2	-	12
N. Dak	2	-	-	3	2	-	-	-	38
S. Dak	-	4	-	2	5	-	-	-	25
Nebr	8	2	-	4	6	-	-	-	1
Kans	5	9	-	9	12	-	-	-	-
S. ATLANTIC	1,403	1,418	1	841	841	3	5	3	264
Del	10	12	-	8	9	-	-	-	-
Md	98	113	-	53	75	1	-	-	158
D.C.	90	75	-	36	38	-	-	-	-
Va	115	80	-	74	60	1	1	-	43
W. Va	3	2	-	34	21	-	-	-	6
N.C.	137	167	-	130	98	-	2	2	-
S.C.	172	193	-	112	109	-	-	1	6
Ga	-	-	-	98	132	1	-	-	32
Fla	778	776	1	296	299	-	2	-	21
E.S. CENTRAL	380	498	-	394	367	3	-	4	37
Ky	25	19	-	107	73	2	-	1	11
Tenn	167	148	-	107	112	1	-	-	14
Ala	144	178	-	133	135	-	-	1	12
Miss	44	153	-	47	47	-	-	2	-
W.S. CENTRAL	1,278	1,407	1	523	415	3	1	3	89
Ark	63	75	-	64	29	2	-	-	20
La	206	245	-	119	73	-	-	-	3
Okl	38	43	1	44	55	1	-	1	10
Tex	971	1,044	-	296	258	-	1	2	56
MOUNTAIN	160	187	1	88	81	-	2	-	165
Mont	3	1	-	5	13	-	-	-	64
Idaho	1	2	-	4	2	-	-	-	-
Wy	-	5	-	-	1	-	-	-	67
Colo	50	48	-	1	3	-	-	-	-
N. Mex	17	20	-	21	15	-	-	-	2
Ariz	70	103	1	41	39	-	1	-	32
Utah	4	3	-	4	3	-	-	-	-
Nev	15	7	-	10	5	-	-	-	-
PACIFIC	1,122	881	1	786	878	1	26	-	138
Wash	18	32	-	49	37	-	2	-	-
Oreg	28	27	-	31	27	-	-	-	-
Calif	1,068	808	1	650	732	-	22	-	133
Alaska	-	-	-	12	37	1	-	-	3
Hawaii	12	17	-	44	43	-	2	-	-
Guam	1	2	-	-	9	-	-	-	-
P.R.	193	199	-	64	86	-	-	-	7
V.I.	-	-	U	-	1	-	-	-	-
Pac. Trust Terr	4	13	-	5	16	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 22, 1986 (12th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	835	622	135	41	7	30	90	S. ATLANTIC	1,478	927	326	112	47	63	66
Boston, Mass.	204	140	31	19	3	11	34	Atlanta, Ga.	162	93	35	15	7	12	5
Bridgeport, Conn.	47	31	13	1	1	1	1	Baltimore, Md.	250	154	55	20	7	14	5
Cambridge, Mass.	29	24	5	-	-	-	4	Charlotte, N.C.	89	62	21	1	2	3	4
Fall River, Mass.	32	27	5	-	-	-	5	Jacksonville, Fla.	122	73	30	8	7	4	7
Hartford, Conn.	70	53	14	1	-	3	5	Miami, Fla.	106	68	19	14	1	4	2
Lowell, Mass.	44	33	8	2	-	1	5	Norfolk, Va.	67	41	16	2	4	4	2
Lynn, Mass.	35	26	8	1	-	-	5	Richmond, Va.	135	77	39	10	2	7	10
New Bedford, Mass.	48	43	3	1	1	-	2	Savannah, Ga.	69	41	13	8	4	3	6
New Haven, Conn.	59	38	15	3	-	3	2	St. Petersburg, Fla.	142	124	15	1	-	2	11
Providence, R.I.	87	69	11	4	1	2	11	Tampa, Fla.	81	54	16	4	4	2	3
Somerville, Mass.	11	11	-	-	-	-	-	Washington, D.C.	232	127	80	28	9	8	11
Springfield, Mass.	49	39	6	1	-	3	10	Wilmington, Del.	21	13	7	1	-	-	-
Waterbury, Conn.	50	38	9	2	-	1	6								
Worcester, Mass.	70	50	7	6	1	6	5								
MID ATLANTIC	3,100	1,219	299	570	472	540	170	E.S. CENTRAL	871	567	204	55	19	29	43
Albany, N.Y.	59	39	6	7	4	3	-	Birmingham, Ala.	139	84	36	9	5	5	4
Allentown, Pa.	23	16	5	2	-	-	-	Chattanooga, Tenn.	56	41	13	1	-	1	1
Buffalo, N.Y.	139	103	22	5	2	7	18	Knoxville, Tenn.	77	51	18	6	1	1	4
Camden, N.J.	35	23	8	1	2	1	-	Louisville, Ky.	97	67	19	5	-	6	5
Elizabeth, N.J.	23	21	2	-	-	-	-	Memphis, Tenn.	229	152	47	17	6	7	13
Erie, Pa.	45	32	11	1	-	1	7	Mobile, Ala.	85	53	23	6	3	1	7
Jersey City, N.J.	42	31	6	4	-	1	-	Montgomery, Ala.	52	37	9	2	3	1	2
N.Y. City, N.Y. §	1,708	241	23	488	445	511	80	Nashville, Tenn.	136	83	39	9	1	4	7
Newark, N.J.	75	40	18	12	2	5	2								
Paterson, N.J.	34	21	7	4	1	1	2	W.S. CENTRAL	1,374	752	219	170	121	112	67
Philadelphia, Pa.	491	346	110	24	8	3	29	Austin, Tex.	59	42	8	4	5	-	3
Pittsburgh, Pa.	64	46	14	1	4	-	6	Baton Rouge, La.	74	51	14	3	3	3	3
Reading, Pa.	36	25	9	2	-	-	7	Corpus Christi, Tex.	43	32	8	1	1	1	1
Rochester, N.Y.	98	69	18	4	2	5	5	Dallas, Tex.	223	133	46	27	6	11	11
Schenectady, N.Y.	24	18	6	-	-	-	-	El Paso, Tex.	49	33	12	1	3	-	3
Scranton, Pa.	29	22	6	1	-	-	5	Fort Worth, Tex.	129	80	26	13	6	6	9
Syracuse, N.Y.	82	64	14	2	1	1	4	Houston, Tex. §	318	74	1	80	82	81	5
Trenton, N.J.	40	23	10	6	1	1	1	Little Rock, Ark.	68	44	16	4	2	2	3
Utica, N.Y.	18	17	1	-	-	-	4	New Orleans, La.	86	47	27	10	-	2	1
Yonkers, N.Y.	36	23	5	7	-	-	1	San Antonio, Tex.	176	111	36	19	7	4	14
								Shreveport, La.	39	24	7	2	4	2	3
								Tulsa, Okla.	110	81	19	6	4	-	11
E.N. CENTRAL	2,384	1,383	370	242	190	198	132	MOUNTAIN	697	438	156	61	22	20	40
Akron, Ohio	86	68	12	2	3	3	4	Albuquerque, N.Mex.	87	47	23	12	4	1	3
Canton, Ohio	44	34	5	3	1	1	7	Colorado Springs, Colo.	46	28	9	8	1	1	6
Chicago, Ill. §	553	127	4	140	138	144	16	Denver, Colo.	120	78	22	8	7	5	9
Cincinnati, Ohio	143	105	20	5	8	17	17	Las Vegas, Nev.	90	66	25	8	1	-	6
Cleveland, Ohio	166	109	37	11	5	4	3	Ogden, Utah	25	18	2	2	1	2	3
Columbus, Ohio	123	79	28	6	6	4	3	Phoenix, Ariz.	139	80	40	8	4	7	2
Dayton, Ohio	157	92	45	10	4	6	6	Pueblo, Colo.	27	16	6	5	1	-	4
Detroit, Mich.	288	174	88	29	10	6	8	Salt Lake City, Utah	55	35	9	7	1	3	1
Evansville, Ind.	48	35	5	3	-	3	2	Tucson, Ariz.	108	80	20	5	2	1	6
Fort Wayne, Ind.	34	27	6	1	-	1	5								
Gary, Ind.	13	8	3	1	-	1	-	PACIFIC	2,036	1,362	378	167	76	46	123
Grand Rapids, Mich.	51	40	7	1	2	1	9	Berkeley, Calif.	19	8	3	2	-	-	-
Indianapolis, Ind.	157	98	38	11	6	4	9	Fresno, Calif.	66	39	14	5	1	3	7
Madison, Wis.	43	30	8	2	1	2	7	Glendale, Calif.	35	30	2	2	-	-	1
Milwaukee, Wis.	170	127	29	5	3	6	-	Honolulu, Hawaii	85	53	19	8	4	1	5
Peoria, Ill.	53	38	13	2	-	2	11	Long Beach, Calif.	98	63	17	6	7	3	16
Rockford, Ill.	36	27	6	2	1	-	3	Los Angeles, Calif.	675	423	129	60	38	7	31
South Bend, Ind.	37	28	6	1	1	1	7	Oakland, Calif.	58	38	9	5	1	5	1
Toledo, Ohio	108	87	14	4	2	1	12	Pasadena, Calif.	30	23	3	4	-	-	1
Youngstown, Ohio	74	52	17	3	2	-	3	Portland, Oreg.	143	107	20	8	6	3	6
								Sacramento, Calif.	134	96	25	7	2	4	12
W.N. CENTRAL	878	614	158	53	20	31	48	San Diego, Calif.	118	78	21	16	2	3	13
Des Moines, Iowa	91	67	15	5	4	-	8	San Francisco, Calif.	152	106	25	10	2	8	5
Duluth, Minn.	46	36	3	5	-	1	4	San Jose, Calif.	153	101	24	16	9	3	12
Kansas City, Kans.	33	25	5	1	1	1	-	Seattle, Wash.	157	118	24	10	3	2	5
Kansas City, Mo.	126	90	25	5	2	4	7	Spokane, Wash.	70	50	14	3	-	3	7
Lincoln, Neb.	52	38	13	-	-	1	3	Tacoma, Wash.	45	31	10	1	2	1	1
Minneapolis, Minn.	79	55	8	9	2	5	7								
Omaha, Neb.	79	50	20	3	3	3	2								
St. Louis, Mo.	200	140	30	15	5	10	5								
St. Paul, Minn.	75	50	14	5	3	3	4								
Wichita, Kans.	95	63	25	5	-	3	8								
TOTAL	13,649	7,884	2,242	1,471	974	1,056	779								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

YPLL - Continued

References

1. Brann AW, McCarthy BJ, Adams MJ, et al. Unintended pregnancy and infant mortality and morbidity: strategies for closing the gap. In: Closing the gap: National Health Policy Consultation. Carter Center of Emory University, Atlanta, Georgia, November 26-28, 1984.
2. Buehler JW, McCarthy BJ, Holloway JT, Sikes RK. Infant mortality in a south Georgia health district, 1974-1981. *South Med J* (in press).
3. Kleinbaum DG, Kupper LL, Morgenstern H. Epidemiologic research, principles and quantitative methods. Belmont, California: Lifetime Learning, 1982:159-80.
4. CDC. Changes in premature mortality—United States, 1983-1984. *MMWR* 1986;35:29-31.
5. CDC. Premature mortality due to congenital anomalies. *MMWR* 1986;35:97-9.
6. CDC. Premature mortality due to sudden infant death syndrome. *MMWR* 1986;35:169-70.
7. Meirik O. Birthweight specific survivorship of children through age four in Sweden. Presented at the American Public Health Association, 113th Annual Meeting, Washington D.C., November 17-21, 1985.
8. Institute of Medicine. Preventing low birthweight. Washington, D.C.: National Academy Press, 1985.

*Epidemiologic Notes and Reports***Acquired Immunodeficiency Syndrome in Correctional Facilities:
A Report of the National Institute of Justice
and the American Correctional Association**

Recently, the National Institute of Justice (NIJ) of the U.S. Department of Justice, and the American Correctional Association (ACA) jointly sponsored the development of a report on the incidence of acquired immunodeficiency syndrome (AIDS) in correctional facilities, the issues and options facing correctional administrators in formulating policy responses to the problem, and the rationales advanced for various policy choices (1). The report was based, in part, on a questionnaire mailed to all 50 state correctional departments, the Federal Bureau of Prisons, and 37 large city and county jail systems. Following are key findings of the report.

1. Responses were received from mid-November 1985 through early January 1986 from all 50 of the state correctional departments, the Federal Bureau of Prisons, and 33 of the 37 large city and county jail systems that had been asked to participate. A cumulative total of 766 AIDS cases meeting the CDC surveillance definition were recognized among inmates in these responding correctional systems; 24 state prison systems and the Federal Bureau of Prisons reported 455 cases, and 20 large city and county jail systems reported 311 cases.* Of the 766 AIDS patients, 322 (42%) died while in the custody of the correctional systems; 265 (35%) were released from custody; and 179 (23%) remained in custody. The remaining 26 (52%) state systems and 13 (39%) local systems responding to the questionnaire had no reported cases. Among state and federal systems, 80% of the systems accounted for only 5% of the total AIDS cases, while 4% of the systems contributed 72% of the cases. Among responding city and county systems, 69% accounted for only 5% of the total AIDS cases, while 6% accounted for 77% of the cases (Table 4).
2. Respondents reported eight AIDS cases among current or former correctional staff. Seven of the eight had known risk factors for AIDS; investigation of the eighth case is not complete. None of these staff members reported involvement in an incident with an inmate in which transmission of human T-lymphotropic virus type III/lymphadenopathy associated virus (HTLV-III/LAV), the AIDS virus, might have occurred.

*Because inmates may move from local to state facilities, it is possible that a small number of inmate cases have been reported more than once.

AIDS — Continued

3. The geographic distribution of total AIDS cases among inmates is highly skewed. Over 70% of total AIDS cases in state prison systems and city and county jail systems has occurred in the mid-Atlantic region, with all of the other regions of the United States contributing much smaller percentages (Table 5).
4. In jurisdictions with large numbers of AIDS cases among inmates, the majority appears to have occurred among persons with histories of intravenous (IV) drug abuse. For example, 95% of cases in the New York state correctional system had such a history (2).
5. Responding correctional systems agreed on the importance of providing education on AIDS to staff and inmates. Ninety-three percent currently provide or are developing AIDS training or educational materials for staff; 83% currently provide or are developing such programs or materials for inmates. Responding jurisdictions in which educational

TABLE 4. Distribution of acquired immunodeficiency syndrome (AIDS) cases among inmates, by type of correctional system — United States

AIDS cases (range)	State/federal systems		City/county systems	
	Systems (%)	Cases (%)	Systems (%)	Cases (%)
0	26 (51)	0 (0)	13 (39)	0 (0)
1-3	15 (29)	24 (5)	10 (30)	16 (5)
4-10	5 (10)	30 (7)	7 (21)	43 (14)
11-25	2 (4)	42 (9)	1 (3)	12 (4)
26-50	1 (2)	33 (7)	1 (3)	40 (13)
51-100	1 (2)	95 (21)	0 (0)	0 (0)
> 100	1 (2)	231 (51)	1 (3)	200 (64)
Total	51 (100)	455 (100)	33 (100)	311 (100)

TABLE 5. Regional distribution of acquired immunodeficiency syndrome (AIDS) cases in correctional facilities, by type of system* — United States

Region	State systems		City/county systems	
	Cases (%)	Cases (%)	Cases (%)	Cases (%)
New England [†]	16 (3.7)		0 (0.0)	
Mid-Atlantic [§]	327 (75.5)		222 (71.4)	
East North Central [¶]	6 (1.4)		8 (2.6)	
West North Central ^{**}	0 (0.0)		1 (0.3)	
South Atlantic ^{††}	49 (11.3)		24 (7.7)	
East South Central ^{§§}	1 (0.2)		0 (0.0)	
West South Central ^{¶¶}	12 (2.8)		3 (1.0)	
Mountain ^{***}	2 (0.5)		1 (0.3)	
Pacific ^{†††}	20 (4.6)		52 (16.7)	
Total	433 (100.0)		311 (100.0)	

*Federal Bureau of Prisons excluded.

[†]Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

[§]New York, New Jersey, Pennsylvania.

[¶]Ohio, Indiana, Illinois, Michigan, Wisconsin.

^{**}Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

^{††}Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

^{§§}Kentucky, Tennessee, Alabama, Mississippi.

^{¶¶}Arkansas, Louisiana, Oklahoma, Texas.

^{***}Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.

^{†††}Washington, Oregon, California, Alaska, Hawaii.

AIDS — Continued

programs had been in effect long enough to offer assessments of their impact reported that such programs have been effective in reducing the fears of staff (85% of jurisdictions) and inmates (79%). Timely and effective education efforts have prevented threatened job actions by correctional staff unions and generally forestalled hysteria over AIDS within the institutions of several correctional systems.

6. Six state prison systems and seven of the responding city or county jail systems are now screening or are planning to screen all inmates, all new inmates, or all inmates belonging to at least one high-risk group for antibody to HTLV-III/LAV (Table 6). Most of the other responding jurisdictions use the test on a more limited basis. This includes testing in support of diagnoses of AIDS or AIDS-related complex (ARC); testing in response to incidents in which HTLV-III/LAV might have been transmitted; testing on inmate request; and testing for epidemiologic studies of the prevalence of seropositivity and/or seroconversion within correctional facilities (Table 6).
7. The majority of responding jurisdictions (67% of state/federal systems and 70% of the city/county systems) either has in place or has in the developmental stage policies and procedures for the correctional management of inmates with AIDS, ARC, and asymptomatic HTLV-III/LAV infection. While housing policies for these inmate categories vary considerably across jurisdictions (Table 7), the four systems with almost 75% of the AIDS cases (New York state, New York City, New Jersey, and Florida) follow the same combination of policies: (1) medical segregation of all inmates with confirmed AIDS, but no segregation of inmates with ARC or asymptomatic HTLV-III/LAV infection; (2) clinical evaluation and ongoing monitoring (without testing for HTLV-III/LAV antibody) of inmates in risk groups; and (3) intensive and continuous education programs on AIDS for both staff and inmates. None of these four systems screen inmates for antibody to HTLV-III/LAV.

Reported by TM Hammett, PhD, Abt Associates, Inc., Cambridge, Massachusetts; National Institute of Justice, US Dept of Justice, Washington, DC; American Correctional Association, College Park, Maryland; AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: The NIJ/ACA report illustrates both the scope of the AIDS problem in correctional facilities and the diversity of the responses such facilities are taking.

TABLE 6. Policies of correctional systems for testing inmates for human T-lymphotropic virus type III/lymphadenopathy-associated virus antibody* — United States

Policy	State/federal systems	City/county systems
	Systems (%)	Systems (%)
Screening [†]		
All or all new inmates	4 (8)	0 (0)
Members of at least one risk group	2 (4)	7 (21)
Testing <i>only</i> for diagnoses, incident response, or epidemiological studies	39 (76)	20 (61)
Testing only on inmate request	1 (2)	1 (3)
No testing	5 (10)	5 (15)
Total	51 (100)	33 (100)

*Includes actual and planned policies.

[†]The two screening policies are hierarchical; systems with both policies are placed in the policy category listed first.

AIDS - Continued

The apparent lack of reported AIDS cases among correctional staff as a result of contact with inmates is consistent with previous findings that the risk of HTLV-III/LAV transmission in occupational settings is extremely low and does not appear to result from casual contact. Correctional staff should follow published guidelines for preventing transmission of HTLV-III/LAV infection in the workplace (3).

Since IV drug abuse is an important predisposing factor to both incarceration and HTLV-III/LAV infection, it is not surprising to find AIDS cases in inmate populations. It is also not surprising that a high proportion of cases among inmates has been reported from correctional facilities in New York and New Jersey, since those two states have reported 62% of all U.S. AIDS cases associated with histories of IV drug abuse. In addition, the proportion of IV drug abusers with HTLV-III/LAV antibody is reported to be higher in New York City and northern New Jersey than in other parts of the country (4).

Incarceration is not, in itself, associated with a risk of HTLV-III/LAV transmission. The risk of transmission in inmate populations depends on the prevalence of infection among persons who have been incarcerated and the frequency with which such persons might participate in IV drug abuse, with sharing of needles, or in sexual contact with other inmates. However, data to quantify this risk have been quite limited.

Thus far, the only study of HTLV-III/LAV transmission among inmates was conducted by the Maryland Division of Corrections (5). In that study, conducted from April through July 1985, serologic testing for HTLV-III/LAV antibody was offered at one facility to all 360 inmates who had been incarcerated 7 years or longer. Of the 137 inmates who participated, two (1%), both of whom had been incarcerated for 9 years, were seropositive by both

TABLE 7. Housing policies of correctional systems for inmates with acquired immunodeficiency syndrome (AIDS), AIDS-related complex (ARC), or asymptomatic inmates with antibody to human T-lymphotropic virus type III/lymphadenopathy-associated virus* — United States

Policy	State/federal systems	City/county systems
	Systems (%)	Systems (%)
Segregate AIDS cases, maintain ARC cases and asymptomatic seropositives in general prison population†	3 (6)	3 (9)
Segregate AIDS and ARC cases, maintain asymptomatic seropositives in general prison population	10 (20)	3 (9)
Segregate all infected inmates	8 (16)	13 (39)
No segregation of infected inmates	2 (4)	0 (0)
No policy	8 (16)	1 (3)
Combinations (involving case-by-case determination)	16 (31)	10 (30)
Other policy combinations	4 (8)	3 (9)
Total	51 (100)	33 (100)

*Includes actual and planned policies.

†For the purposes of this categorization, segregation means that the basic policy is to hospitalize inmates (either within or outside the correctional system) or to administratively place inmates in separate housing units or cells.

AIDS - Continued

enzyme immunoassay and Western blot methods. Because testing was done in a way to preserve anonymity, additional information about the seropositive inmates was not available. The possible effects of selection bias in this study are also unknown.

Additional data are available from correctional facilities on the incidence of infection with hepatitis B virus (HBV), which has routes of transmission generally similar to those of HTLV-III/LAV. In two recent studies of inmates incarcerated for 1 year, annual seroconversion rates to HBV ranged from 0.8% to 1.3% (6, 7).

It is clear from the NIJ/ACA report that many correctional systems have given high priority to AIDS education programs and that such programs are the basis for AIDS-prevention activities in these systems. At present, most correctional systems are performing serologic tests for HTLV-III/LAV antibody on a limited basis. More extensive use of the tests, such as testing all inmates, all new inmates, or all inmates known to belong to risk groups, would undoubtedly identify additional seropositive persons, who might then be candidates for additional educational programs or other measures to decrease the risk that they might infect others. Such testing could, however, pose difficulties for a number of correctional facilities. In some jurisdictions, legal and policy provisions may currently prohibit testing. Many correctional systems assert that if testing is done, but the results cannot be kept confidential, seropositive inmates could face a range of problems, including the possibility of physical harm.

References

1. Hammett TM. AIDS in correctional facilities: issues and options. Rockville, Maryland: U.S. Department of Justice, National Institute of Justice, 1986.
2. Bureau of Communicable Disease Control, New York State Department of Health. AIDS surveillance monthly update. September 1985.
3. CDC. Recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. *MMWR* 1985;34:681-5, 691-4.
4. Weiss SH, Ginzburg HM, Goedert JJ, et al. Risk factors for HTLV-III infection among parenteral drug abusers. *Proc Am Soc Clin Oncol (Abstract)* 1986;5:11.
5. Maryland Division of Correction. AIDS press conference. December 19, 1985.
6. Hull HF, Lyons LH, Mann JM, Hadler SC, Steece R, Skeels MR. Incidence of hepatitis B in the penitentiary of New Mexico. *Am J Public Health* 1985;75:1213-4.
7. Decker MD, Vaughn WK, Brodie JS, Hutcheson RH Jr, Schaffner W. The incidence of hepatitis B in Tennessee prisoners. *J Infect Dis* 1985;152:214-7.

FIGURE 1. Reported measles cases — United States, weeks 8-11, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21047 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

MMWR

201 Public Health Guidelines for Enhancing
Diabetes Control Through Maternal-
and Child-Health Programs

213 Measles — New Jersey

216 Mumps — United States, 1984-1985

MORBIDITY AND MORTALITY WEEKLY REPORT

MAY 6 1986

Perspectives in Disease Prevention and Health Promotion

DEPOSITORY 376

Public Health Guidelines for Enhancing Diabetes Control Through Maternal- and Child-Health Programs

These guidelines were developed by the Division of Diabetes Control, Center for Prevention Services, CDC, in collaboration with the Division of Maternal and Child Health, Bureau of Health Care Delivery and Assistance, Health Resources and Services Administration, and have been endorsed by the Association for Maternal and Child Health and Crippled Children's Programs.

INTRODUCTION

This document provides guidelines for maternal- and child-health programs for an appropriate public health approach to diabetes control during pregnancy. Particular concerns for the public health-care sector include: (1) screening of women to detect gestational diabetes; (2) identification of women with established diabetes who may become pregnant; (3) assurance of appropriate care for women with diagnosed diabetes (either established or gestational) on-site or through referral; (4) postpartum follow-up and continuing care of women with established diabetes to maintain good blood-glucose control before pregnancy and throughout subsequent pregnancies; and (5) postpartum follow-up of women with gestational diabetes to detect previously undiagnosed established diabetes, to monitor the maintenance of ideal body weight to reduce the chance of developing diabetes later in life, and to ensure prompt diagnosis of diabetes if and when it develops. Key elements are: the identification and establishment of linkages with existing programs and resources and development of the necessary referral and follow-up mechanisms.

STATEMENT OF THE PROBLEM

The presentation of a pregnant woman with established diabetes mellitus* or gestational diabetes mellitus† (GDM) to a public health clinic is relatively rare (about 3%-4% of all pregnancies). However, the morbidity associated with pregnancies affected by diabetes may be substantial, since diabetes may result in a disproportionate number of adverse pregnancy outcomes (7). Therefore, the combination of diabetes and pregnancy presents a special challenge in the public health-care setting.

Incorporating several basic guidelines and principles into the public health sector's management of pregnancy may markedly improve pregnancy outcomes for women with either established or gestational diabetes. With appropriate care, the level of risk associated with diabetes and pregnancy can be reduced to that of the nondiabetic population.

*Diabetes diagnosed before conception.

†Carbohydrate intolerance of variable severity with onset or first recognition during pregnancy.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20,7109:

Diabetes Control — Continued

Problems Related to Established Diabetes. While only approximately 0.3% of all U.S. pregnancies occurs among women with established diabetes, many serious clinical problems are associated with diabetes during pregnancy. The estimated 10,000-14,000 infants born annually to women with established diabetes are at high risk for mortality; prematurity; congenital defects; macrosomia; neonatal hypoglycemia; respiratory distress syndrome; and hyperbilirubinemia, particularly when maternal glucose levels are not tightly controlled during pregnancy (1).

Risks of maternal complications are also associated with diabetes during pregnancy and include: ketoacidosis; exacerbated microvascular, renal, ocular, and neural complications; urinary-tract infections; toxemia; and hydramnios (2).

Problems Related to Gestational Diabetes. GDM occurs in about 2%-3% of pregnancies in the United States (3) and usually develops during the second or third trimester, when levels of insulin-antagonist hormones increase and insulin resistance usually occurs. Approximately 90,000 women with GDM give birth each year. GDM may go undetected in up to 50% of cases.

The effects of GDM on offspring include: macrosomia; birth trauma due to difficult delivery; shoulder dystocia; hypoglycemia; increased incidence of fetal/neonatal mortality (particularly from women with previously unidentified adult-onset, Type II, diabetes); hypocalcemia; and hyperbilirubinemia (4).

Women with GDM are at increased risk for developing diabetes after parturition (5). In addition, many women diagnosed as glucose-intolerant during pregnancy may be previously unidentified Type II diabetics. This risk of developing diabetes and the opportunity to identify as yet undiagnosed women with Type II diabetes are also compelling reasons for screening.

Opportunities to Improve Outcomes. The public health sector can improve pregnancy outcomes among women with established diabetes and women in whom GDM is detected by several methods, including: (1) identification (including outreach, screening, and diagnosis); (2) care/referral (including appropriate patient education and nutrition counseling, referrals to high-risk centers or to private care); (3) maternal/neonatal follow-up; and (4) professional education.

Purpose of the Guidelines. The guidelines should be adapted to the needs of each state, its health-care delivery system, and the levels of professional and fiscal resources available. The guidelines are designed to: (1) increase public and provider awareness of the problem and identify special needs related to diabetes before conception and during pregnancy; (2) propose concrete suggestions for enhancing diabetes control through maternal- and child-health programs in the public health system by improving coordination of the health-care system components, use of resources, and patient involvement in the care regimen; and (3) provide a framework for states/localities to use in adapting these guidelines to meet their specific planning, care, and training needs.

IDENTIFICATION OF WOMEN WITH DIABETES

Outreach. Prepregnancy counseling and early prenatal care by professionals knowledgeable about diabetes during pregnancy are particularly important for women with established diabetes (6). Normalization of maternal glucose levels before pregnancy and during the first 8 weeks of gestation has been effective in reducing the occurrence of congenital malformations (7). Strict control of glucose throughout pregnancy can reduce the risk of perinatal mortality among infants of mothers with diabetes to a level seen in nondiabetic pregnant women. Therefore, prepregnancy counseling—with the goal of attaining euglycemia before conception and maintaining it throughout gestation—is important for women with diabetes. Prepregnancy

Diabetes Control - Continued

evaluation is also important to assess maternal complications of diabetes, such as detecting the presence of retinopathy, nephropathy, hypertension, and coronary atherosclerosis.

Ideally, a woman with established diabetes is aware of the risks associated with diabetes and pregnancy and will consult a physician when contemplating pregnancy. In reality, however, most women come to public health-care settings already several weeks pregnant. Outreach efforts for women with established diabetes include:

1. Identifying women with established diabetes who come to family planning clinics and encouraging referral for prepregnancy counseling;
2. Asking women with diabetes already under care to disseminate messages to their friends and acquaintances (e.g., through support groups) about the importance of preconception counseling and prenatal care;
3. Discussing with women who have established diabetes the importance of glycemic control before pregnancy when they bring children into public health clinics for care;
4. Increasing provider awareness through professional education;
5. Enlisting the aid of local American Diabetes Association or Juvenile Diabetes Foundation chapters in arranging for public service announcements regarding the importance of planned pregnancy and early care for women with diabetes;
6. Developing media campaigns that encourage preconception and early prenatal care (e.g., placing posters in highly visible areas);
7. Providing patient-education materials to local physicians;
8. Recruiting and training persons indigenous to the target population, such as volunteers or community-health workers, to stress the importance of preconception and early prenatal care and proper nutrition during pregnancy;
9. Identifying home-health nurses and enlisting their aid in referral for specialized and follow-up care during pregnancy;
10. Maintaining communications with directors of nursing and education coordinators of outlying hospitals to ensure the availability of patient-education opportunities;
11. Working with primary-care centers;
12. Developing and identifying specialized-care referral centers for women with established diabetes or GDM who cannot be adequately treated in a public health-care setting.

To maximize resources, localities should develop an outreach plan to target their efforts and to optimally use scarce public health resources.

Unlike women with established diabetes, women who develop GDM need to be identified by health-care providers. Therefore, outreach efforts related to identifying GDM should be targeted at those health-care professionals who have contact with pregnant women (e.g., nurse-midwives, nurse-practitioners, family practitioners, obstetricians, and nutritionists).

Screening and Diagnosis. Screening and diagnostic activities in the public health-care setting focus on identifying women who develop GDM. The following recommendations for GDM screening and diagnosis were formulated at the Second International Workshop-Conference on Gestational Diabetes Mellitus (7).

Many investigators have supported the view that certain risk factors may assist in identifying pregnant women prone to developing GDM. These include: age of 25 years or older; obesity; history of diabetes in a first-degree relative; history of pregnancy with stillbirth or infant over 9 pounds; and history of congenital malformation in a previous child. Although a history of hypertension is often cited as a risk factor for GDM, it does not necessarily assist in identifying a woman prone to develop GDM. However, it is a serious coexisting condition and

Diabetes Control - Continued

can increase the risk of adverse outcome in women with GDM. It is now well accepted that only universal screening can completely identify all patients with GDM. However, most pregnant patients with these specific risk factors will not have GDM, since GDM occurs in only approximately 2%-3% of the population.

Therefore, it is recommended that, where possible, all pregnant women be screened for GDM (7). In public health settings, universal screening may not be possible. Therefore, if factors exist that preclude universal screening, all women 25 years of age or older and women with any of the above-mentioned risk factors (regardless of age) should be screened. These factors are not only associated with greater risk of developing GDM but are more often associated with poor perinatal outcome.

Urine testing alone is not an adequate screening test for glucose intolerance during pregnancy. Blood-glucose screening should be performed between 24 weeks' and 28 weeks' gestation. The following glucose challenge test is recommended: (1) patient is given 50 grams of a standard glucose solution to be ingested in a 10-minute period without regard to time of day or last meal; (2) patient should not eat or smoke until 1-hour blood sample is drawn; (3) blood sample is taken at 1 hour and analyzed by standard techniques available to the health department. A venous plasma-glucose result of 140 mg/dl (7.8 mmol/L) is recommended as a threshold for referral for definitively diagnosing GDM. Whole blood-glucose standards are approximately 15% less than plasma-glucose values.

Indications for screening before 24 weeks' gestation include: (1) previous GDM; (2) previous large-for-gestational-age infant; (3) polyhydramnios; (4) suspected large-for-gestational-age fetus; (5) glycosuria value of 1+ or greater on two or more occasions or 2+ or greater on one occasion; (6) increased thirst or urination; (7) recurrent vaginal and urinary-tract infections (e.g., monilial vulvovaginitis). These high-risk women should be screened on initial visit, or as soon as possible in the pregnancy, and again at 24 weeks' gestation (if not positive on the earlier test).

If blood-glucose meters are used for screening, the cut-off values will differ, and the sensitivity and specificity of the procedure will vary from screening using venous plasma. A lower value should be used as a screening cut-off for referral for definitive diagnosis.

Definitive diagnosis of GDM should be accomplished with a 100-gram oral glucose-tolerance test (OGTT). The test should be performed in the morning after an overnight fast of at least 8 hours but not more than 14 hours, and after at least 3 days' unrestricted diet (over 150 grams carbohydrate) and physical activity. A 100-gram oral glucose load is given in a volume of at least 400 ml fluid. Venous plasma glucose is measured fasting and at 1, 2, and 3 hours. The patient should remain seated and not smoke throughout the test. Definitive diagnosis requires that two or more of the following venous plasma-glucose concentrations be met or exceeded:

- fasting: 105 mg/dl (5.8 mmol/L)
- 1-hour: 190 mg/dl (10.6 mmol/L)
- 2-hour: 165 mg/dl (9.2 mmol/L)
- 3-hour: 145 mg/dl (8.1 mmol/L)

Capillary blood measurements, using glucose oxidase-impregnated test strips, are useful for monitoring therapy but not sufficiently accurate for diagnostic purposes. Glycosylated hemoglobin (i.e., HbA_{1c} or HbA_{1c}) is also not a sensitive enough diagnostic indicator for GDM.

REFERRAL TO CARE

Women with established diabetes and women who develop GDM should be considered at high risk and be referred immediately for specialized care if such care is not available on-site.

Diabetes Control — Continued

This will ensure that activities, such as determination of the appropriate level of care needed by prepregnant and pregnant women with diabetes, consultation, training, referral, and follow-up, can best be coordinated within the various components of the health-care system, be it a public health setting, private medical setting, hospital, or community clinic. Optimally, a perinatal center for high-risk individuals will be available—particularly for women with established diabetes mellitus—that offers a multidisciplinary team consisting of an obstetrician/perinatologist, an internist/endocrinologist, a social worker, a dietitian, and a nurse/patient educator. If this level of care is unavailable, the patient should receive, at a minimum, care from a local obstetrician knowledgeable in management of diabetes during pregnancy. Patient education should be an integral part of medical care. The public health role in referrals is to identify care resources, assure access to care, follow up to ensure that care is obtained, and assure that the care obtained is appropriate.

Obtaining a plan of care from the provider to whom a referral is made is desirable for several reasons: (1) it describes the elements that will/will not be provided, which helps the public health clinic identify other resources that may be needed to fill gaps; (2) it provides information on the comprehensiveness and quality of care provided by professionals/facilities to whom patients are referred; and (3) it may be valuable for follow-up for postpartum care or subsequent pregnancies.

The public health sector should retain a role in certain aspects of patient care (such as follow-up, education, social services, transportation, home visits), even though patients may be referred for special needs. While direct care may not be provided to high-risk women in the public health-care setting, public health professionals should be aware of the elements of appropriate care to assess the quality of services provided by the professionals/facilities to whom they refer.

Elements of Care for Women with Gestational Diabetes.

1. It is recommended that each patient be seen at regular intervals and have a provider available by phone to discuss any problems.
2. Dietary management is the primary therapeutic strategy for blood-glucose control. Each patient should receive nutrition assessment and counseling.
3. Blood pressure should be monitored carefully.
4. Maternal weight gain should be monitored. In general, a total weight gain of 24-28 pounds has been recommended. Excessive changes in weight should be avoided, and patients should not attempt to lose weight. A woman's nutritional status needs to be monitored carefully; weight-gain recommendations need to be individualized; and nutrition-care plans need to be developed accordingly with considerations to factors such as exercise/activity patterns, insulin dosages or other medications, and individual food preferences. A woman's pregravid weight seems to be the most sensitive indicator for weight gain during pregnancy. Many studies propose that women who are underweight pregravid may need to gain more than the usually recommended 24-28 pounds for a normal weight pregravid woman. Similarly, for women who are overweight or obese pregravid—often a predisposing risk factor for developing GDM—weight gains of less than 24-28 pounds may be sufficient, and intakes of 30 kcal/kg ideal body weight appropriately balanced with carbohydrates, fats, and proteins may be more appropriate. Considerably more research in the area is needed.
5. In many centers, if dietary management is not successful in maintaining control (fasting plasma glucose under 105 mg/dl [5.8 mmol/L] and/or the 2-hour postprandial plasma glucose under 120 mg/dl [6.7 mmol/L] on two or more occasions within a 2-week in-

Diabetes Control - Continued

terval), insulin therapy is initiated (7). Although these values are even less than those recommended for nonpregnant women with diabetes, the benefits of tight control are believed to outweigh more lax control. Patients should be treated with highly purified nonbeef or human insulin to minimize the likelihood of problems related to insulin antibodies. The safety of oral hypoglycemic agents during pregnancy has not been adequately evaluated, and they are not recommended. If the patient is put on insulin, treatment guidelines for women with established diabetes should be followed.

6. If insulin is the therapy of choice, blood glucose should be self-monitored, and patients should be educated to ensure appropriate use and evaluated regularly. (Urine testing is not a sufficiently reliable indicator of blood-glucose levels during pregnancy.) Patients who use insulin should measure fasting blood glucose and 2-hour postprandial blood glucose daily to maintain glycemic control as near to normal as possible.
7. Ketones should be measured in the clinic and followed up, if positive, to prevent starvation ketosis. If the patient is losing weight, a dietary history should be obtained and caloric intake adjusted carefully based on pregravid weight, levels of exercise, etc.
8. Breast-feeding should be encouraged.

Elements of Care for Women with Established Diabetes.

1. Pregnancy should be planned so that blood glucose can be normalized before conception and throughout gestation.
2. Throughout pregnancy, glucose levels must be monitored daily by the patient (a minimum of four times daily for best results), and on each visit, by the health-care provider.
3. The safety of oral hypoglycemic agents in pregnancy has not been established, and they are not recommended.
4. The majority of pregnant women with established diabetes will require twice-daily injections of both intermediate- and short-acting insulin for control. For patients on twice-daily insulin injections, a dietary program consisting of three meals and three snacks has been suggested.
5. Maternal serum alpha-fetoprotein screening for detecting neural-tube defects should be performed on all pregnant women at about 16 weeks' gestation, especially those with established diabetes.

Nutrition Counseling.

1. The public health-care sector should ensure that nutrition counseling is available. Certain principles apply for both gestational and established diabetes.
2. Each patient should receive individual nutrition assessment and counseling consistent with the recommendations for caloric distribution prepared by the American Diabetes Association in 1979 (8).
3. The nutrition plan should contain 35-38 kcal/kg ideal body weight and be appropriately balanced with carbohydrates, fats, and proteins (7).
4. Patients should divide their caloric intake among three meals and several snacks.
5. The average daily caloric intake for the pregnant woman with diabetes will range from 2,000 to 2,400 calories. Lactating women may require an additional 600-800 calories daily more than a normal diet for a nonpregnant woman.
6. Obese patients should not lose weight during pregnancy because weight loss may increase the risks for retarded fetal growth. On the average, a woman should gain 24-28 pounds during pregnancy.

Patient Education. Diabetes in pregnancy cannot be managed adequately without patient education and self-management. Therefore, the public health clinic should ensure that patient education is an integral component of the care plan developed for each patient. All pregnant

Diabetes Control – Continued

women identified with either GDM or established diabetes should receive: (1) information about the interaction of pregnancy and diabetes; (2) information on the importance and frequency of blood-glucose self-monitoring (established diabetes and gestational if managed with insulin); (3) instruction on how to self-monitor blood glucose (established diabetes only, unless GDM treated with insulin) and urine testing for ketones; (4) instruction regarding use of medications; and (5) exercise instruction.

In addition, women with GDM should be instructed in the importance of postpartum weight control, including appropriate exercise, due to the increased likelihood of developing diabetes in later years. Women with established diabetes should be instructed in the importance of preconception counseling and blood-glucose normalization before conception in future pregnancies to reduce the risk of congenital anomalies from diabetes. In addition, women should be aware that pregnancy can exacerbate complications of diabetes.

The public health sector can play a major role in instructing patients about self-monitoring. Self-monitoring demonstrates the day-to-day variability in glucose levels; promotes self-discipline, control, and a heightened understanding of the condition; provides immediate feedback on hyperglycemia or hypoglycemia; and provides essential data to enable pregnant women and their health-care providers to make appropriate changes in diet, exercise, and insulin therapy.

Because urine-glucose testing is not a sufficiently reliable indicator of glucose levels, frequent blood-glucose determinations are strongly recommended throughout pregnancy for women with established diabetes or with GDM controlled with insulin. The practitioner should instruct the pregnant woman with established diabetes to test urine for ketones and to self-monitor blood glucose throughout pregnancy. Patients with established diabetes should be informed that insulin requirements may increase substantially in the second and third trimesters. The public health-care sector should ensure the availability of equipment critical to self-monitoring.

FOLLOW-UP

Short- and long-term follow-up are integral components of care for this high-risk population. In the short term, it is important for the public health sector to identify sources of care during pregnancy to which patients can be referred and then to make certain the referrals are completed.

For women with GDM, a repeat oral glucose-tolerance test (OGTT) is recommended at the first postpartum check-up. If the test is positive, the patient should be provided with or referred for treatment; if the test is negative, the patient should be advised that she is still at risk of developing diabetes later in life. She should be informed that the onset of diabetes may be delayed or prevented if she attains and maintains ideal body weight, and, if necessary, a referral for counseling on diet and/or weight control should be made. Regular follow-up and an annual OGTT are recommended.

Follow-up for the woman with established diabetes entails an adjustment of the insulin dosage after delivery (usually to the prepregnancy level), informing the mother about the importance of returning to her ideal body weight, and achieving and maintaining good blood-glucose control postpartum. In addition, it is important to provide counseling for the woman with established diabetes regarding the importance of glucose control before any subsequent pregnancies. Referral to a family planning clinic for an appropriate contraceptive method may also be appropriate.

RECOMMENDED RESOURCES

Successful pregnancy outcomes depend on linkages and referrals to appropriate care and services. A list of resources that may be used for referral or that may provide educational and

Diabetes Control — Continued

promotional materials is presented below. While this list is not exhaustive, it is indicative of the resources available to improve pregnancy outcomes.

American Association of Diabetes Educators
 American College of Obstetricians and Gynecologists
 American Diabetes Association
 Division of Diabetes Control, Center for Prevention Services, CDC
 Crippled Children's Programs
 Diabetes Research and Training Centers
 Family Planning Clinics
 Juvenile Diabetes Foundation
 Maternal and Child Health Programs
 National Diabetes Advisory Board
 National Diabetes Information Clearinghouse
 National Institute of Child Health and Human Development

(Continued on page 213)

TABLE 1. Summary—cases specified notifiable diseases, United States

Disease	13th Week Ending			Cumulative, 13th Week Ending		
	Mar 29, 1986	Mar 30, 1985	Median 1981-1985	Mar 29, 1986	Mar 30, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	295	361	N	2,914	1,587	N
Aseptic meningitis	73	80	80	1,039	898	1,022
Encephalitis: Primary (arthropod-borne & unsp.)	17	21	21	208	228	222
Post-infectious	4	5	2	17	31	22
Gonorrhea: Civilian	14,721	15,766	15,976	193,605	194,612	225,508
Military	239	514	503	3,893	4,859	6,012
Hepatitis: Type A	438	447	464	5,596	5,285	5,767
Type B	536	484	484	5,974	6,075	5,674
Non A, Non B	68	98	N	783	1,037	N
Unspecified	81	107	146	1,276	1,266	1,817
Legionellosis	18	7	N	137	156	N
Leprosy	4	7	7	64	102	51
Malaria	6	13	18	165	167	167
Measles: Total*	395	210	76	1,299	547	547
Indigenous	395	186	N	1,262	453	N
Imported	-	24	N	37	94	N
Meningococcal infections: Total	70	57	74	826	794	893
Civilian	68	57	74	823	793	893
Military	2	-	-	3	1	3
Mumps	70	107	107	705	1,045	1,096
Pertussis	25	22	39	484	377	359
Rubella (German measles)	3	8	37	117	84	287
Syphilis (Primary & Secondary): Civilian	447	630	549	5,927	6,184	7,529
Military	3	6	6	52	43	96
Toxic Shock syndrome	8	6	N	73	96	N
Tuberculosis	368	390	479	4,651	4,569	5,309
Tularemia	1	1	1	17	24	23
Typhoid fever	2	9	15	51	59	90
Typhus fever, tick-borne (RMSF)	1	2	2	12	11	14
Rabies, animal	120	159	143	1,085	1,079	1,263

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (RI 1)	12
Botulism: Foodborne	3	Plague	-
Infant	12	Polio-myelitis, Paralytic	-
Other	-	Psittacosis (Tex 1)	14
Brucellosis	12	Rabies, human	-
Cholera	-	Tetanus	7
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic murine)	1
Diphtheria	-		

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
March 29, 1986 and March 30, 1985 (13th Week)

Reporting Area	AIDS	Aseptic Mening- itis	Encephalitis		Gonorrhea (Cervical)		Hepatitis (Viral) by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA/NB	Unspeci- fied		
					Cum 1986	1986					Cum 1986	Cum 1986
UNITED STATES	2,914	73	208	17	193,605	194,612	438	536	68	81	18	64
NEW ENGLAND	129	1	8	1	4,532	6,208	6	48	5	4	2	1
Maine	6	1	-	-	223	245	-	-	-	-	-	-
NH	6	-	2	-	129	128	-	-	-	-	-	-
VT	2	-	2	1	76	55	-	1	-	-	-	-
Mass	72	-	2	-	1,814	2,365	3	25	4	2	1	1
RI	9	-	-	-	445	461	1	8	-	-	1	-
Conn	34	-	2	-	1,745	2,954	2	14	1	2	-	-
MID ATLANTIC	1,070	6	36	-	33,708	25,878	18	93	7	5	-	7
Upstate N.Y.	98	-	12	-	3,905	3,909	6	17	2	-	-	-
N.Y. City	681	2	9	-	19,951	10,822	-	1	-	5	-	7
N.J.	193	4	4	-	3,788	5,742	5	18	3	-	-	-
Pa.	88	-	11	-	6,064	5,405	7	17	2	-	-	-
E.N. CENTRAL	152	8	42	2	24,537	28,296	36	77	6	3	7	3
Ohio	30	3	13	2	6,995	7,228	6	27	1	2	7	-
Ind.	17	2	3	-	3,708	2,807	6	15	1	1	-	-
Ill.	67	-	5	-	3,616	8,112	19	13	2	-	-	2
Mich.	33	3	20	-	8,591	8,098	5	22	3	-	-	1
Wis.	5	-	1	-	1,627	2,051	-	-	-	-	-	-
W.N. CENTRAL	61	2	5	1	9,185	9,936	10	10	3	-	-	1
Minn.	30	1	3	-	1,320	1,478	4	-	1	-	-	1
Iowa	5	-	2	-	889	1,081	1	4	1	-	-	-
Mo.	15	1	-	-	4,420	4,550	1	6	1	-	-	-
N. Dak.	2	-	-	-	89	77	-	-	-	-	-	-
S. Dak.	1	-	-	-	187	166	4	-	-	-	-	-
Nebr.	3	-	-	-	656	954	-	-	-	-	-	-
Kans.	5	-	-	1	1,624	1,630	-	-	-	-	-	-
S. ATLANTIC	398	20	35	10	43,649	42,691	36	71	11	4	4	1
Del.	8	-	3	-	842	897	2	-	-	-	-	-
Md.	37	6	9	-	6,210	6,736	-	10	-	-	1	-
D.C.	63	-	-	-	3,833	3,525	1	-	-	-	-	-
Va.	46	1	14	-	4,433	4,571	1	12	-	-	-	1
W. Va.	2	-	3	-	625	527	2	2	1	1	-	-
N.C.	20	2	5	-	8,844	8,411	2	6	1	-	3	-
S.C.	14	-	-	-	4,682	5,212	-	4	-	1	-	-
Ga.	27	1	-	-	-	-	2	11	2	-	-	-
Fla.	181	10	1	10	14,180	12,812	26	26	7	2	-	-
E.S. CENTRAL	28	-	15	1	17,136	17,152	1	40	4	5	-	-
Ky.	7	-	6	-	2,053	1,924	-	3	-	2	-	-
Tenn.	12	-	1	1	6,826	6,751	-	25	1	2	-	-
Ala.	5	-	8	-	4,595	5,263	1	8	2	1	-	-
Miss.	4	-	-	-	3,662	3,214	-	4	1	-	-	-
W.S. CENTRAL	272	12	17	-	25,132	28,014	68	46	5	43	1	5
Ark.	7	-	-	-	2,303	2,609	1	4	-	3	-	-
La.	34	1	1	-	4,188	5,897	3	2	1	3	-	-
Okla.	11	1	4	-	2,927	2,814	11	2	-	1	1	-
Tex.	220	10	12	-	15,714	16,694	53	38	4	36	-	5
MOUNTAIN	75	1	10	1	6,604	6,412	34	30	2	5	1	7
Mont.	1	-	-	1	166	199	2	-	-	-	-	-
Idaho	1	-	-	-	215	225	-	1	-	-	-	-
Wyo.	2	-	2	-	138	171	1	2	-	-	-	-
Colo.	35	-	2	-	1,711	1,941	-	5	-	2	-	3
N. Mex.	6	-	-	-	665	761	4	-	-	1	1	-
Ariz.	18	-	4	-	1,980	1,851	18	17	2	2	-	2
Utah	6	-	1	-	273	267	3	4	-	-	-	-
Nev.	6	1	1	-	1,456	997	6	1	-	-	-	2
PACIFIC	729	23	40	1	29,122	30,025	229	161	25	12	3	39
Wash.	34	-	2	-	2,142	2,219	14	18	4	2	-	5
Oreg.	14	-	-	-	1,130	1,624	41	19	3	-	-	-
Calif.	663	21	36	1	24,696	24,950	173	123	18	9	3	32
Alaska	8	-	2	-	839	757	1	-	-	1	-	-
Hawaii	10	2	-	-	315	475	-	1	-	-	-	2
Guam	-	-	-	-	13	42	-	1	-	-	-	-
P.R.	27	-	2	-	543	1,025	2	2	-	4	-	-
V.I.	-	U	-	-	47	103	U	U	U	U	U	-
Pac. Trust Terr.	-	U	-	-	18	235	16	U	U	1	U	-
Amer. Samoa	-	-	-	-	8	-	2	1	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 29, 1986 and March 30, 1985 (13th Week)

Reporting Area	Malans	Measles (Rubella)					Menin- gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986
		Cum 1986	1986	Cum 1986	1986										
UNITED STATES	165	395	1,262	-	37	547	826	70	705	25	484	377	3	117	64
NEW ENGLAND	9	-	9	-	-	22	61	3	14	1	31	18	-	1	5
Maine	-	-	-	-	-	-	11	-	-	-	2	2	-	-	-
NH	-	-	-	-	-	-	3	-	5	-	11	11	-	1	2
Vt	1	-	-	-	-	-	9	-	-	-	1	2	-	-	-
Mass	4	-	9	-	-	22	14	1	1	1	9	2	-	-	3
RI	1	-	-	-	-	-	6	-	4	-	1	1	-	-	-
Conn	3	-	-	-	-	-	18	2	4	-	7	-	-	-	-
MID ATLANTIC	23	81	463	-	3	35	141	5	50	2	68	52	1	23	15
Upstate N.Y.	2	-	1	-	2	17	39	2	19	1	41	29	1	15	5
N.Y. City	7	1	53	-	1	16	35	-	5	-	5	7	-	5	7
N.J.	3	80	414	-	-	2	20	1	10	-	4	1	-	3	3
Pa.	11	-	-	-	-	-	47	2	16	1	18	15	-	-	-
E.N. CENTRAL	4	10	93	-	2	234	99	28	323	1	115	61	-	1	8
Ohio	1	-	-	-	-	11	46	2	45	-	59	13	-	-	-
Ind	-	-	-	-	-	1	10	-	14	-	9	11	-	-	-
Ill	2	10	48	-	-	138	24	14	152	-	12	10	-	-	2
Mich	1	-	-	-	-	45	19	11	49	1	12	7	-	-	5
Wis	-	-	45	-	2	39	-	1	63	-	23	20	-	1	1
W.N. CENTRAL	4	7	68	-	-	3	41	-	22	-	27	32	-	2	6
Minn	1	-	-	-	-	1	10	-	1	-	15	10	-	-	-
Iowa	1	-	-	-	-	-	6	-	5	-	4	1	-	-	-
Mo	2	-	-	-	-	2	18	-	7	-	3	8	-	1	-
N. Dak	-	-	-	-	-	-	-	-	2	-	2	5	-	-	-
S. Dak	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr	-	-	-	-	-	-	5	-	-	-	-	1	-	-	-
Kans	-	7	68	-	-	-	2	-	6	-	3	7	-	1	8
S. ATLANTIC	23	33	188	-	2	19	183	6	61	2	92	90	-	6	6
Del	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md	3	1	5	-	-	1	20	1	4	-	20	23	-	-	1
D.C.	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-
Va	6	-	-	-	-	7	37	3	9	-	9	2	-	-	-
W. Va	-	-	-	-	-	2	2	1	23	-	2	-	-	-	-
N.C.	3	-	-	-	-	-	27	-	4	1	13	6	-	-	-
S.C.	-	32	172	-	-	-	22	1	6	-	2	-	-	-	2
Ga	3	-	-	-	1	5	27	-	4	1	40	45	-	-	-
Fla	8	-	11	-	1	3	45	-	11	-	6	14	-	6	3
E.S. CENTRAL	4	-	-	-	-	-	42	-	5	2	14	4	-	1	1
Ky	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn.	-	-	-	-	-	-	19	-	1	2	4	1	-	-	-
Ala	2	-	-	-	-	-	13	-	1	-	9	2	-	-	-
Miss	-	-	-	-	-	-	4	-	1	-	-	-	-	-	-
W.S. CENTRAL	13	244	281	-	12	3	56	8	58	2	21	27	-	23	13
Ark	-	244	265	-	-	-	5	2	5	1	1	7	-	-	1
La	4	-	-	-	-	-	6	-	-	-	3	1	-	-	-
Okl	1	-	2	-	-	-	10	N	N	1	17	19	-	-	-
Tex	8	-	14	-	12	3	35	6	53	-	-	-	-	23	12
MOUNTAIN	5	3	38	-	5	163	35	10	91	7	67	19	-	-	3
Mont	-	-	-	-	1	115	4	-	2	-	-	2	-	-	-
Idaho	1	-	-	-	-	-	1	-	2	2	15	-	-	-	1
Wyo	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo	1	-	-	-	2	-	7	-	4	2	16	8	-	-	-
N. Mex.	-	-	13	-	2	-	4	N	N	-	8	3	-	-	1
Ariz	2	3	25	-	-	48	11	10	79	1	20	3	-	-	1
Utah	-	-	-	-	-	-	4	-	1	2	8	3	-	-	-
Nev	1	-	-	-	-	-	2	-	1	-	-	-	-	-	-
PACIFIC	80	17	117	-	13	68	188	10	81	8	49	74	2	60	27
Wash	8	-	22	-	7	1	24	-	4	5	23	11	-	-	-
Oreg	8	-	-	-	2	-	14	N	N	-	2	16	-	-	1
Calif	64	17	79	-	4	60	124	10	70	3	21	44	2	60	24
Alaska	-	-	-	-	-	-	5	-	2	-	1	1	-	-	-
Hawaii	-	-	16	-	-	7	1	-	5	-	2	2	-	-	2
Guam	1	-	1	-	-	10	-	-	1	-	-	-	-	2	1
P.R.	1	-	-	-	-	39	2	-	14	-	2	1	-	-	4
V.I.	-	U	-	U	-	9	-	U	5	U	-	-	U	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
March 29, 1986 and March 30, 1985 (13th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	5,927	6,184	8	4,651	4,569	17	51	12	1,085
NEW ENGLAND	130	139	-	143	161	-	2	1	-
Maine	8	5	-	14	13	-	-	-	-
NH	6	3	-	2	6	-	-	-	-
Vt	4	-	-	7	1	-	-	-	-
Mass	67	76	-	74	97	-	1	1	-
RI	8	5	-	5	16	-	-	-	-
Conn	37	50	-	41	28	-	1	-	-
MID ATLANTIC	883	796	3	892	905	-	6	-	114
Upstate N.Y.	40	52	-	139	123	-	-	-	16
N.Y. City	495	504	-	435	487	-	4	-	-
N.J.	180	175	3	150	76	-	1	-	-
Pa.	168	65	-	168	219	-	-	-	98
E.N. CENTRAL	148	310	2	620	566	-	4	-	15
Ohio	31	29	1	88	106	-	-	-	1
Ind	27	26	-	75	68	-	-	-	5
Ill	39	161	-	272	259	-	-	-	2
Mich	35	80	1	150	105	-	3	-	3
Wis	16	14	-	35	28	-	1	-	4
W.N. CENTRAL	65	74	-	124	118	6	3	-	128
Minn	8	19	-	25	19	-	1	-	13
Iowa	5	11	-	11	19	1	-	-	33
Mo	37	28	-	67	55	5	2	-	14
N. Dak	2	-	-	3	2	-	-	-	36
S. Dak	-	4	-	2	5	-	-	-	25
Nebr	8	3	-	4	6	-	-	-	5
Kans	5	9	-	17	12	-	-	-	-
S. ATLANTIC	1,517	1,578	1	928	906	4	6	3	313
Del	10	13	-	11	9	-	-	-	-
Md	112	120	-	62	81	1	-	-	191
D.C.	93	84	-	38	38	-	-	-	-
Va	127	86	1	79	69	1	2	-	50
W. Va	3	2	-	35	21	-	-	-	6
N.C.	146	185	-	136	101	1	2	2	-
S.C.	177	207	-	124	115	-	-	1	8
Ga	-	-	-	107	138	1	-	-	37
Fla	849	881	-	336	334	-	2	-	21
E.S. CENTRAL	448	588	-	420	406	3	-	5	55
Ky	25	20	-	112	81	2	-	1	12
Tenn	181	156	-	120	127	1	-	-	27
Ala	146	195	-	138	144	-	-	1	16
Miss	96	217	-	50	54	-	-	3	-
W.S. CENTRAL	1,354	1,510	2	578	474	3	2	3	101
Ark	72	79	-	68	32	2	-	-	29
La	206	267	-	125	82	-	-	-	4
Okla	42	45	1	46	58	1	1	1	12
Tex	1,034	1,119	1	339	302	-	1	2	56
MOUNTAIN	179	225	-	88	88	-	2	-	191
Mont	3	1	-	5	16	-	-	-	74
Idaho	1	2	-	4	2	-	-	-	-
Wyo	-	5	-	-	1	-	-	-	80
Colo	53	50	-	1	3	-	-	-	-
N. Mex	22	27	-	23	18	-	-	-	2
Ariz	76	125	-	41	40	-	1	-	35
Utah	4	3	-	4	3	-	1	-	-
Nev	20	12	-	10	5	-	-	-	-
PACIFIC	1,203	964	-	858	945	1	26	-	170
Wash	16	35	-	50	38	-	2	-	-
Oreg	26	27	-	34	32	-	-	-	-
Calif	1,148	885	-	715	785	-	22	-	161
Alaska	-	-	-	12	44	1	-	-	6
Hawaii	13	17	-	47	46	-	2	-	-
Guam	1	2	-	-	10	-	-	-	-
P.R.	206	240	-	71	75	-	-	-	13
VI	-	-	U	-	1	-	-	-	-
Pac. Trust Terr	29	15	-	5	23	-	-	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
March 29, 1986 (13th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	719	524	130	31	18	16	74	S ATLANTIC	1,262	789	269	107	34	60	70
Boston, Mass	210	137	43	11	11	8	25	Atlanta, Ga	183	95	41	18	5	24	10
Bridgeport, Conn	54	44	5	2	1	2	5	Baltimore, Md	139	81	41	8	3	6	3
Cambridge, Mass	28	22	2	4	-	-	4	Charlotte, N.C	66	41	13	5	4	3	1
Fall River, Mass	28	23	5	-	-	-	-	Jacksonville, Fla	84	52	21	7	2	2	7
Hartford, Conn	42	28	10	3	-	1	5	Miami, Fla	176	99	44	20	10	3	4
Lowell, Mass	35	28	5	1	1	-	3	Norfolk, Va	55	37	11	3	-	4	1
Lynn, Mass	23	17	6	-	-	-	-	Richmond, Va	73	50	14	2	2	5	10
New Bedford, Mass	30	24	5	-	1	-	4	Savannah, Ga	50	29	12	5	1	3	4
New Haven, Conn	36	21	9	3	2	1	4	St Petersburg, Fla	117	102	6	6	1	2	12
Providence, R.I.	74	60	12	-	2	-	9	Tampa, Fla	78	52	15	6	1	1	7
Somerville, Mass	11	10	1	-	-	-	2	Washington, D.C	215	132	45	27	4	7	8
Springfield, Mass	50	37	7	4	-	2	6	Wilmington, Del	26	19	6	-	1	-	3
Waterbury, Conn	34	27	7	-	-	-	5								
Worcester, Mass	64	46	13	3	-	2	2								
MID ATLANTIC	2,769	1,964	501	193	47	63	159	E S CENTRAL	801	524	181	45	23	28	47
Albany, N.Y.	61	43	13	1	1	3	3	Birmingham, Ala	158	94	42	7	4	11	7
Allentown, Pa	22	21	1	-	-	-	-	Chattanooga, Tenn	42	35	7	-	-	-	6
Buffalo, N.Y.	107	83	18	4	-	1	12	Knoxville, Tenn	72	48	20	2	1	1	1
Camden, N.J.	42	26	10	5	-	1	3	Louisville, Ky	116	79	26	7	3	1	11
Elizabeth, N.J.	29	24	1	3	1	-	3	Memphis, Tenn	158	106	35	6	8	3	9
Erie, Pa†	42	29	11	-	1	1	4	Mobile, Ala	76	47	10	8	3	8	5
Jersey City, N.J.	41	33	7	1	-	-	2	Montgomery, Ala	55	40	11	3	-	1	3
N.Y. City, N.Y.	1,453	1,013	266	119	28	27	64	Nashville, Tenn	124	75	30	12	4	3	8
Newark, N.J. §	79	72	1	1	3	2	4								
Paterson, N.J.	30	18	7	4	-	1	3	W S CENTRAL	1,492	929	323	121	55	64	83
Philadelphia, Pa	316	199	63	27	9	18	18	Austin, Tex	53	28	12	7	3	3	6
Pittsburgh, Pa†	78	49	22	4	1	2	5	Baton Rouge, La	31	23	6	1	1	-	1
Reading, Pa	42	39	2	1	-	-	6	Corpus Christi, Tex	44	31	8	3	1	1	4
Rochester, N.Y.	156	119	25	7	1	4	18	Dallas, Tex	221	144	34	20	11	12	11
Schenectady, N.Y.	35	25	6	3	-	1	4	El Paso, Tex	70	42	11	10	3	4	7
Scranton, Pa†	31	24	5	1	-	-	1	Fort Worth, Tex	124	79	28	10	2	5	12
Syracuse, N.Y.	126	89	28	6	2	1	8	Houston, Tex	440	250	115	43	12	20	18
Trenton, N.J.	24	16	6	2	-	-	-	Little Rock, Ark	70	48	15	3	3	1	8
Utica, N.Y.	12	10	1	1	-	-	1	New Orleans, La	111	69	21	10	5	6	-
Yonkers, N.Y.	43	32	8	3	-	-	4	San Antonio, Tex	194	131	39	6	11	7	11
								Shreveport, La	52	34	13	2	1	2	-
								Tulsa, Okla	82	50	21	6	2	3	5
E N CENTRAL	2,228	1,600	354	123	66	83	107	MOUNTAIN	668	450	114	57	25	22	30
Akron, Ohio	62	38	20	1	2	1	2	Albuquerque, N.Mex	72	42	17	6	4	3	6
Canton, Ohio	28	23	5	-	-	-	-	Colorado Springs, Colo	34	27	4	1	2	3	1
Chicago, Ill. §	553	462	11	26	16	37	16	Denver, Colo	114	82	17	10	2	3	6
Cincinnati, Ohio	158	110	33	5	6	4	14	Las Vegas, Nev	105	71	18	12	1	3	1
Cleveland, Ohio	121	89	25	2	4	1	5	Ogden, Utah	21	15	2	1	1	2	3
Columbus, Ohio	127	88	18	15	5	1	-	Phoenix, Ariz	126	78	20	18	8	2	5
Dayton, Ohio	119	78	26	8	2	5	7	Pueblo, Colo	23	18	4	1	-	-	2
Detroit, Mich	282	162	71	33	6	9	15	Salt Lake City, Utah	60	37	12	4	1	6	-
Evansville, Ind	34	27	7	-	-	-	6	Tucson, Ariz	113	80	20	4	6	3	6
Fort Wayne, Ind	57	42	8	4	1	2	6								
Gary, Ind	13	5	5	2	1	-	-	PACIFIC	1,996	1,312	431	139	50	58	124
Grand Rapids, Mich	63	41	16	3	2	1	6	Berkeley, Calif	28	19	7	2	-	-	-
Indianapolis, Ind	144	92	32	10	5	5	1	Fresno, Calif	76	56	8	4	2	6	5
Madison, Wis	51	35	9	3	1	3	7	Glendale, Calif	33	26	5	1	1	-	3
Milwaukee, Wis	107	85	16	1	-	5	-	Honolulu, Hawaii	54	37	13	2	2	-	4
Peoria, Ill	48	35	7	-	3	3	5	Long Beach, Calif	78	50	21	3	2	2	12
Rockford, Ill	46	34	6	1	2	3	2	Los Angeles, Calif	599	375	138	50	18	12	21
South Bend, Ind	46	36	6	-	4	-	6	Oakland, Calif	76	52	15	4	1	4	-
Toledo, Ohio	92	62	17	5	6	2	8	Pasadena, Calif	35	23	7	2	1	2	2
Youngstown, Ohio	77	56	16	4	-	1	4	Portland, Ore	129	85	30	7	5	2	7
								Sacramento, Calif	187	120	44	14	3	6	15
W N CENTRAL	680	480	130	29	18	23	35	San Diego, Calif	159	106	38	8	4	3	19
Des Moines, Iowa	81	52	15	8	2	4	5	San Francisco, Calif	136	89	22	20	1	4	3
Duluth, Minn	35	32	3	-	-	-	4	San Jose, Calif	137	83	36	7	3	8	18
Kansas City, Kans	31	23	7	1	-	-	1	Seattle, Wash	161	116	26	9	3	7	7
Kansas City, Mo	93	57	20	5	8	3	5	Spokane, Wash	52	33	11	3	3	2	6
Lincoln, Nebr	36	29	3	3	1	-	3	Tacoma, Wash	56	42	10	3	1	-	2
Minneapolis, Minn	84	55	19	2	1	7	2								
Omaha, Nebr	84	64	15	1	3	1	3	TOTAL	12,615††	8,572	2,433	845	336	417	729
St. Louis, Mo	125	83	32	6	1	3	3								
St. Paul, Minn	62	50	4	2	1	5	5								
Wichita, Kans	49	35	12	1	1	-	4								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Diabetes Control — Continued

National Research Council

State Diabetes Control Programs

Women's, Infants', and Children's Nutrition Programs (WIC)

*Prepared in collaboration with the Johns Hopkins University School of Public Health and a panel of expert consultants.**References*

1. Freinkel N, Metzger BE, Potter JM. Pregnancy in diabetes. In: Ellenberg M, Rifkin H, eds. Diabetes mellitus: theory and practice. New York: Medical Examination Publishing Company, 1983:689-714.
2. Freinkel N, Dooley SL, Metzger BE. Current concepts: Care of the pregnant woman with insulin-dependent diabetes mellitus. *N Engl J Med* 1985;313:96-101.
3. Sepe SJ, Connell FA, Geiss LS, Teutsch SM. Gestational diabetes: Incidence, maternal characteristics, and perinatal outcome. *Diabetes* 1985;34(suppl 2):13-6.
4. Landon MB, Gabbe SG. Antepartum fetal surveillance in gestational diabetes mellitus. *Diabetes* 1985;34(suppl 2):50-4.
5. Stowers JM, Sutherland HW, Kerridge DF. Long-range implications for the mother: The Aberdeen experience. *Diabetes* 1985;34(suppl 2):106-10.
6. Fuhrmann K, Reiher H, Semmler K, Fischer F, Glöckner E. Prevention of congenital malformations in infants of insulin-dependent diabetic mothers. *Diabetes Care* 1983;6:219-23.
7. Summary and recommendations of the Second International Workshop-Conference on Gestational Diabetes Mellitus. *Diabetes* 1985;34(suppl 2):123-6.
8. American Diabetes Association. Principles of nutrition and dietary recommendations for individuals with diabetes mellitus. 1979. *Diabetes* 1979;28:1027-30.

*Epidemiologic Notes and Reports***Measles — New Jersey**

An ongoing measles outbreak in New Jersey that began in November 1985 is the largest U.S. measles outbreak since 1983. Information is available on the 334 cases reported between November 15, 1985, and March 13, 1986 (Figure 1). Seventeen (5.1%) cases have been serologically confirmed. Residents of Jersey City accounted for 269 (80.5%) cases; cases have also occurred among residents of 14 other municipalities surrounding Jersey City. The index patient was a 2½-year-old Hispanic child who developed a rash on November 15, 1985. The source of his infection is unknown. Of the total 334 patients, 38% had Hispanic surnames.

Of the 322 patients with known age, 197 (61.2%) were preschool-aged children (under 5 years of age). Of these 197, 100 (50.8%) were under 16 months of age (too young for routine measles vaccination), and 97 (49.2%) were 16 months-4 years of age. In Jersey City, attack rates were 13.0/1,000 for infants under 1 year of age, 8.8/1,000 for 1- to 4-year-olds, and between 1.0/1,000 and 2.3/1,000 for persons in the 5- to 19-year age groups.

Complications occurred among 45 (13.5%) of these 334 patients. Thirty-two (9.6%) had pneumonia; four (1.2%) had otitis media; six (1.8%) had diarrhea; one (0.3%) had encephalitis;

Measles — Continued

and two (0.6%) had other complications. Seventy (21.0%) were hospitalized. There were no measles-associated fatalities.

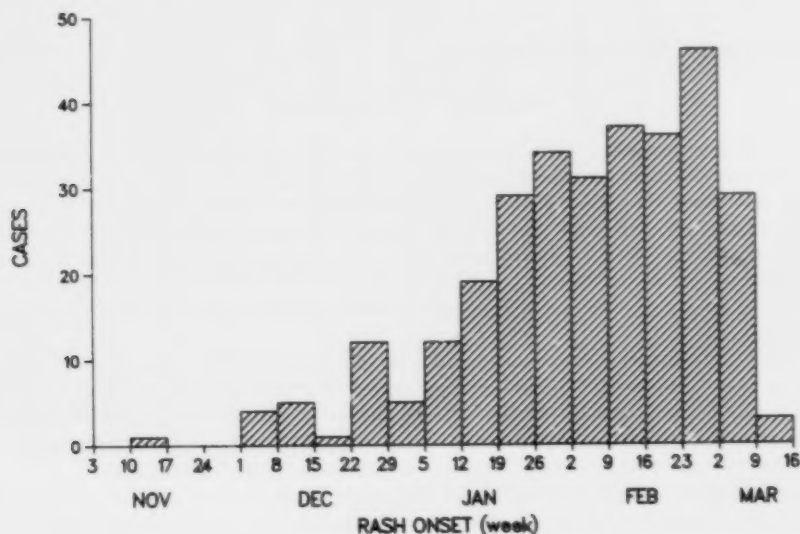
Transmission occurred in a variety of settings, including hospital inpatient units and emergency rooms, outpatient diagnostic settings, physicians' offices, medical clinics, schools, day-care centers, and homes.

Preventability status was known in 316 cases*; 109 (34.5%) were preventable by CDC criteria (7). Of these, 86 (78.9%) occurred among preschoolers (16 months-4 years), and 23 (21.1%) occurred among school-aged children. Of the 207 nonpreventable cases, 100 (48.3%) were among children under 16 months of age, including 59 under 12 months of age, and 41 12-15 months of age. One hundred one (48.8%) were school-aged children with histories of appropriate vaccination (vaccination at 12 months of age or older), and six (2.9%) were born before 1957 (too old for routine vaccination).

Outbreak-control activities included intensified surveillance, mass publicity through newspapers, radio, and television; audits of school and day-care center records; and additional free vaccination clinics at various locations throughout Jersey City. On January 22, 1986, the recommended age for measles vaccination in Jersey City during the outbreak was lowered to 12 months. Nine additional vaccination clinics were held. However, only 156 of approximately 1,000 children 12-15 months of age in Jersey City presented for vaccination. On March 12, because of the continuing high attack rate among children under 12 months of age, the recommended age for measles vaccination during the outbreak was lowered to 6 months, with revaccination at 15 months of age.

*Cases among preschool-aged children 16 months-4 years of age for whom there were no data on vaccination status were assumed to be preventable.

FIGURE 1. Reported measles cases, by date of rash onset — New Jersey, November 15, 1985-March 13, 1986



Measles — Continued

Reported by W Lezynski, Jersey City Div of Health, R Altman, MD, L Dimasi, J Dawalt, J Hansson-Skaling, F Krichling, R Ashley, Communicable Diseases Operations Program Br; B Spurr, Communicable Disease Field Program, W Parkin, DVM, State Epidemiologist, New Jersey State Dept of Health; Div of Field Services, Epidemiology Program Office, Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: This outbreak is occurring primarily in Jersey City, a city with a population of approximately 223,500, of which 27% is black non-Hispanic and 18% is Hispanic. There is also a large undocumented alien population in the city. This outbreak is different from most recent U.S. outbreaks in that a large proportion of cases has occurred among preschool-aged children. Most recent outbreaks have occurred in junior or senior high schools or universities (2-4).

Immunization levels in preschool-aged Jersey City children are known to be low. Although current information is not available, a retrospective survey conducted in 1991 indicated that only 56% of Jersey City children had been vaccinated by 2 years of age (5). Nationwide, immunization levels for preschool-aged children are lower than those for school-aged students (which are greater than 95%), since most preschoolers are not enrolled in institutions (e.g., day-care centers) that uniformly require immunization for entry. However, immunization levels for 2-year-olds in Jersey City are lower than those in suburban areas of New Jersey (81%) (5) as well as the national average (66%-84%) (6). Thus, it appears that the size and extent of this outbreak reflect a large pool of susceptibles in the preschool-aged population. These susceptible preschoolers have probably contributed to the spread of measles to children under 16 months of age. In most parts of the United States, children in this age group have a low probability of exposure to measles. Therefore, the Immunization Practices Advisory Committee currently recommends that children be vaccinated against measles at 15 months of age.

Although multiple modes of transmission have been identified in this outbreak, a large proportion of transmission has occurred in medical settings. Some medical-setting transmission occurred when young children were taken to physicians during the prodrome of their illnesses (when they are infectious, but without rash). However, transmission was also the result of inadequate isolation of children with rash illnesses (7).

Outbreak-control efforts have been frustrated by the lack of public response to vaccination efforts by the New Jersey State Department of Health. While lowering the age of vaccination to as low as 6 months of age is an important control measure (8), if infants and children are not vaccinated, this will have little impact on the outbreak.

The Jersey City outbreak has recently spread to Patterson, a neighboring city, where preschool-aged children have predominantly been affected. There may be similar low immunization levels among preschoolers in other urban areas of New Jersey and elsewhere in the United States, creating a potential for similar outbreaks to occur. Increased efforts should be directed at increasing immunization levels in this hard-to-reach age group.

References

1. CDC. Classification of measles cases and categorization of measles elimination programs. *MMWR* 1983;31:707-11.
2. CDC. Multiple measles outbreaks on college campuses—Ohio, Massachusetts, Illinois. *MMWR* 1985;34:129-30.
3. CDC. Measles on a college campus—Ohio. *MMWR* 1985;34:89-90.
4. CDC. Measles outbreak among vaccinated high school students—Illinois. *MMWR* 1984;33:349-51.
5. New Jersey State Department of Health. Unpublished data.
6. Eddins DL, Sirotkin BI, Holmgren P, Russell S. Assessment and validation of immunization status in the U.S. Dallas, Texas: 20th immunization conference proceedings, 1985:51-61.
7. Davis RM, Orenstein WA, Frank JA, et al. Transmission of measles in medical settings. *JAMA* 1986; 255:1295-8.
8. ACIP. Measles prevention. *MMWR* 1982;31:217-24, 229-31.

Current Trends

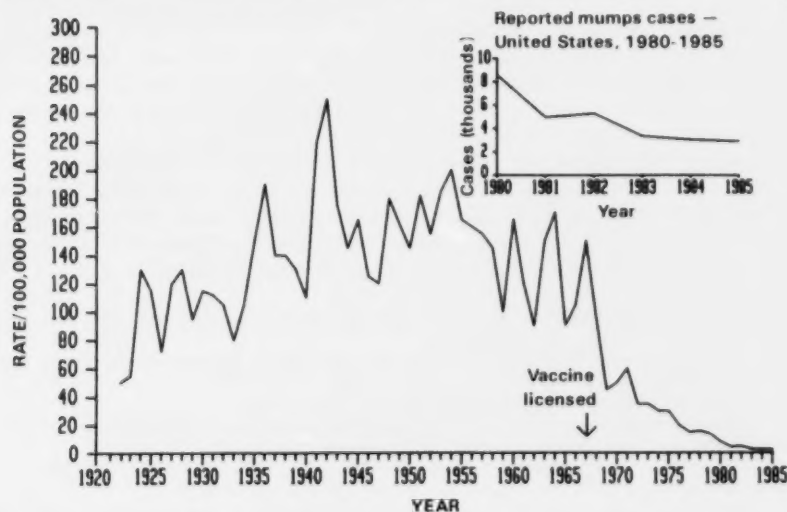
Mumps — United States, 1984-1985

For 1985, a provisional total of 2,886 mumps cases (1.2 cases/100,000 population) was reported in the United States; this is the lowest annual total since mumps became a nationally notifiable disease in 1968. The 1985 figure represents a decrease of 4.5% from the 1984 total of 3,021 cases and a 98.1% decline from 1968, the year after live mumps vaccine licensure, when 152,209 cases were reported to CDC (Figure 2).

Provisionally, for 1985, 28 of the 47 states where mumps is a notifiable disease reported fewer mumps cases than in 1984; mumps is not a notifiable disease in three states (New Mexico, Oklahoma, Oregon). One state (South Dakota) reported no mumps cases. By comparison, for 1984, 25 of the 47 states where mumps is a notifiable disease reported fewer cases of mumps than for 1983. Two states (Louisiana, South Dakota) reported no mumps cases for 1984. Mumps cases were reported from 23.3% of 2,994 reporting counties in 1984, compared with 24.8% of 2,927 reporting counties in 1983. Age and county data are not yet available for 1985.

However, national age-specific data are available for 2,654 (87.9%) of the mumps cases reported for 1984 (Table 1). As in the prevaccine era, persons under 15 years of age continued to have the highest incidence rate (4.4 cases/100,000 population). In contrast, the rate for persons 15 years of age or older was 0.4/100,000. As in 1982 and 1983, the school-aged population continued to both account for the majority of cases and have the highest risk for disease. Approximately three-fourths of mumps patients of known age reported in 1984 were 5-19 years of age. Children 5-9 years of age had the highest incidence rate

FIGURE 2. Mumps incidence rates — United States, 1922-1985*



*Provisional data.

Mumps — Continued

(5.9/100,000) in 1984; children 10-14 years of age had the next highest (5.0/100,000). During 1982, the highest age-specific incidence shifted for the first time from the 5- to 9-year age group to the 10- to 14-year age group, primarily because of a large outbreak in Ohio among junior high and high school students. This pattern was not observed in 1983 and 1984. Although the reported mumps incidence remained essentially the same from 1983 to 1984 for persons 10-19 years of age, a 16%-18% decline was noted in other age groups for which vaccine is recommended. The largest decreases occurred among children under 10 years of age. For all age groups routinely receiving vaccine, there were declines between 1982 and 1984 of 14.7% to 56.1%, with the largest decreases observed in 10- to 19-year-olds.

Long-term age-specific data on mumps cases are available from three reporting areas that have continually collected such data (California, Massachusetts, New York City) from the time of vaccine licensure to the present (Table 2). In the years immediately following vaccine licensure (1967-1976), the highest reported incidence rate occurred among 5- to 9-year-olds, followed by children under 5 years of age. Together, these two groups accounted for over 70% of all reported cases. More recently (1980-1984), these two age groups accounted for 50% of reported cases due to disproportionate decreases in mumps incidence relative to persons 10 years of age or older. As a result, risk to children 10-14 years of age approximated that of children 5-9 years of age during 1980-1984. Conversely, the proportion of mumps cases occurring among 10- to 14-year-olds increased from 13.8% in 1967-1971 to 22.8% in 1980-1984. The proportion of total cases occurring among persons 15 years of age or older also changed from 5.8% to 27.4% between the earlier and recent periods. However, there was a 91.4% reduction in reported mumps incidence in this age group during 1980-1984 relative to 1967-1971. Independent of these temporal shifts in age distribution of mumps cases toward older children and adults, all age groups had a 90% or greater reduction in the risk of acquiring mumps for 1980-1984 relative to 1967-1971.

Reported by Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, CDC.

TABLE 1. Age distribution of reported mumps cases and estimated incidence rates* — United States, 1982-1984

Age group (yrs.)	1982			1983			1984			Rate change (%)
	No.	(%)	Rate*	No.	(%)	Rate*	No.	(%)	Rate*	1982-1984
< 1	27	(0.7)	1.0	16	(0.8)	0.7	37	(1.4)	1.2	+20.0
1-4	339	(8.7)	3.4	317	(15.3)	3.7	364	(13.7)	2.9	-14.7
5-9	1,058	(27.0)	8.9	708	(34.1)	7.2	842	(31.7)	5.9	-33.7
10-14	1,523	(38.9)	11.4	535	(25.8)	4.9	771	(29.1)	5.0	-56.1
15-19	611	(15.6)	4.1	249	(12.0)	2.1	335	(12.6)	2.0	-48.8
≥ 20	355	(9.1)	0.3	249	(12.0)	0.2	305	(11.5)	0.2	-33.3
Total, known age	3,913	(74.3)	-	2,074	(61.8)	-	2,654	(87.9)	-	-
Total, unknown age	1,357	(25.7)	-	1,281	(38.2)	-	367	(12.1)	-	-
Total	5,270	(100.0)	2.3	3,355	(100.0)	1.4	3,021	(100.0)	1.3	43.5

*Cases/100,000 population (projected census data) extrapolated from the age distribution of patients with known age. Not adjusted for states not reporting mumps: 1982 and 1983—Florida, New Mexico, Oklahoma, Oregon; 1984—New Mexico, Oklahoma, Oregon.

Mumps — Continued

Editorial Note: Since licensure of live mumps vaccine in December 1967, more than 70 million doses have been distributed in the United States, with an accompanying 98.1% decrease in reported cases.

While a 1984-1985 nationwide survey found that 97% of school entrants and 93% of children attending licensed day-care centers were immunized against mumps (7), the school-aged population continues to be the group at highest risk for disease. Older children, such as those involved in outbreaks in Ohio in 1982 (2) and New Jersey in 1983 (3), represent unvaccinated cohorts that still exist in many areas of the country where compulsory state school-immunization requirements do not cover the entire K-12 cohort of school-aged children.

During the 1985-1986 school year, mumps immunization is required for school entry or school attendance in 32 states and the District of Columbia. However, this requirement applies to all students (K-12) in only 16 of 32 states. Currently, 18 states do not require proof of mumps immunity for school entry. Mumps incidence data from 1984 demonstrated that the incidence rate of mumps in states with no school mumps immunization law (1.9/100,000 population) was 1.7-fold higher than that in states with such a law (1.1/100,000). The effect of a school law was even more apparent in a mumps outbreak among schoolchildren in New Jersey (3). Children not covered by the state's school entry law had a fivefold higher risk for mumps than children affected by the law. This observation indicates that further declines in the reported mumps incidence rate can be expected as more children entering school are required to provide proof of mumps immunity for school attendance. It is clear that school immunization laws will be important to achieving the 1990 goal of less than 1,000 reported mumps cases annually (4).

Since live mumps vaccine was licensed, it has continued to be shown to be safe, effective, and cost-beneficial (2,3,5-9). A recent benefit-cost analysis based on national data for 1983 determined that an immunization program using single-antigen mumps vaccine would reduce costs associated with mumps by almost \$340 million, with a benefit-cost ratio of 6.7 (9). This study found a benefit-cost ratio of 14.4 for an immunization program using combined measles-mumps-rubella (MMR) vaccine. The savings attributable to the use of combination rather than single-antigen vaccine totaled nearly \$60 million. Because the potential for outbreaks will continue in unvaccinated cohorts, considerable medical and economic savings can be realized by including immunization with MMR vaccine as part of compliance with state

TABLE 2. Age distribution of reported mumps cases* and estimated incidence rates† — California, Massachusetts, New York City, 1967-1971,§ 1972-1976,§ 1980-1984§

Age group (yrs.)	1967-1971†			1972-1976			1980-1984**			Rate change 1967-1984
	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	
< 5	2,932	(17.1)	102.5	1,125	(18.7)	41.2	95	(18.9)	3.8	-96.3
5-9	10,413	(60.8)	336.8	3,272	(54.3)	105.8	155	(30.9)	6.3	-98.1
10-14	2,372	(13.8)	75.5	992	(16.5)	31.6	115	(22.9)	4.2	-94.4
≥ 15	1,418	(8.3)	5.8	633	(10.5)	2.6	137	(27.3)	0.5	-91.4
Total	17,135	(100.0)	51.1	6,022	(100.0)	18.0	502	(100.0)	1.4	-97.3

*Cases of unknown age excluded.

†Reported cases/100,000 population.

§Average annual figure over 5-year period.

¶Represents prevaccine years.

**These selected data accurately reflect changes using total U.S. data, 1980 population data used.

Mumps — Continued

school-immunization laws. Current data indicate that vaccine-induced immunity persists for at least 19 years and will likely be lifelong.

Appropriate administration of mumps vaccine to susceptible adolescents and young adults should be emphasized. In 1984, 305 (11.5%) persons of known age with mumps were 20 years of age or older. Older individuals are at higher risk for mumps complications. Although mumps is generally a self-limited disease, meningeal signs may appear in up to 15% of cases. Adult males are particularly at risk of orchitis, which occurs in up to 20% of clinical cases in postpubertal males.

Persons are considered immune to mumps if they have a dated record of vaccination with live mumps vaccine on or after the first birthday, documentation of physician-diagnosed disease, or laboratory evidence of immunity. Those lacking adequate documentation of mumps immunity should receive mumps vaccine. In addition, persons who received killed mumps vaccine (available in the United States from 1950 to 1978) might benefit from vaccination with live mumps vaccine. MMR is the vaccine of choice for persons likely to be susceptible to measles and/or rubella, as well as to mumps.

References

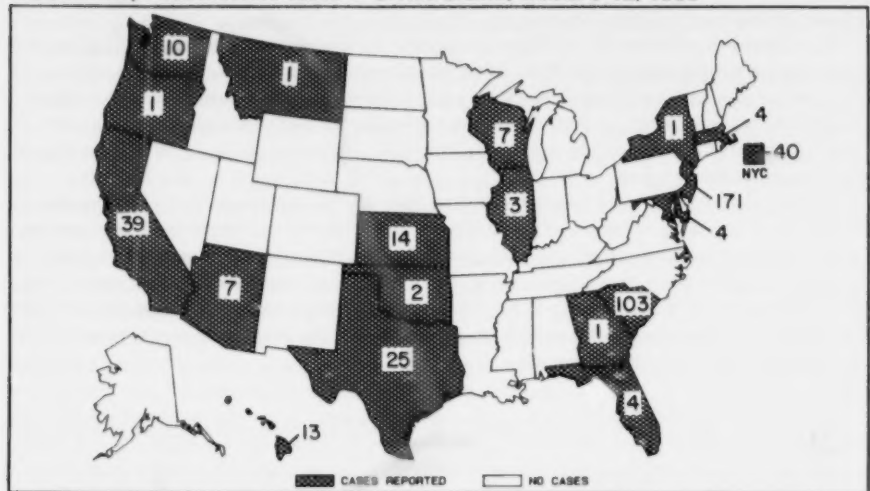
1. CDC. Unpublished data.
2. Kim-Farley R, Bart S, Stettler H, et al. Clinical mumps vaccine efficacy. *Am J Epidemiol* 1985;121:593-7.
3. CDC. Mumps outbreak—New Jersey. *MMWR* 1984;33:421-2, 427-30.
4. U.S. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, D.C.: Department of Health and Human Services, 1980:21-4.
5. Koplan JP, Preblud SR. A benefit-cost analysis of mumps vaccine. *Am J Dis Child* 1982;136:362-4.
6. ACIP. Mumps vaccine. *MMWR* 1982;31:617-20, 625.
7. CDC. Mumps—United States, 1980-1983. *MMWR* 1983;32:545-7.
8. CDC. Mumps—United States, 1983-1984. *MMWR* 1984;33:533-5.
9. White CC, Koplan JP, Orenstein WA. Benefits, risks and costs of immunization for measles, mumps and rubella. *Am J Public Health* 1985;75:739-44.

Erratum: Vol. 35, No. 12

p. 188 In the article, "Years of Potential Life Lost Attributable to Low Birthweight—United States, 1980 Birth Cohort," the formula in the second footnote should be:

†Population-attributable risk = $(D - [BR])/T$.

FIGURE I. Reported measles cases — United States, weeks 9-12, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21048 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **
**

April 11, 1986 / Vol. 35 / No. 14

- 221 Recommendations for Preventing Transmission of Infection with HTLV-III/LAV during Invasive Procedures
- 223 Q Fever among Slaughterhouse Workers — California
- 231 Safety of Therapeutic Immune Globulin Preparations with Respect to Transmission of HTLV-III/LAV Infection
- 233 Tornado Disaster — Pennsylvania

Current Trends

Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus during Invasive Procedures

BACKGROUND

On November 15, 1985, "Recommendations for Preventing Transmission of Infection with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus in the Workplace," was published (1). That document gave particular emphasis to health-care settings and indicated that formulation of further specific recommendations for preventing human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) transmission applicable to health-care workers (HCWs) who perform invasive procedures was in progress.

Toward that end, a 2-day meeting was held at CDC to discuss draft recommendations applicable to individuals who perform or assist in invasive procedures.* Following the meeting, revised draft recommendations for HCWs who have contact with tissues or mucous membranes while performing or assisting in operative, obstetric, or dental invasive procedures were sent to participants for comment. In addition, 10 physicians with expertise in infectious diseases and the epidemiology of HTLV-III/LAV infection were consulted to determine whether they felt additional measures or precautions beyond those recommended below were indicated. These 10 experts did not feel that additional recommendations or precautions were indicated.

DEFINITIONS

In this document, an operative procedure is defined as surgical entry into tissues, cavities, or organs or repair of major traumatic injuries in an operating or delivery room, emergency

*The following organizations were represented at the meeting: American Academy of Family Physicians; American Academy of Periodontology; American Association of Dental Schools; American Association of Medical Colleges; American Association of Oral and Maxillofacial Surgeons; American Association of Physicians for Human Rights; American College of Emergency Physicians; American College of Nurse Midwives; American College of Obstetricians and Gynecologists; American College of Surgeons; American Dental Association; American Dental Hygienists Association; American Hospital Association; American Medical Association; American Nurses' Association; American Public Health Association; Association for Practitioners in Infection Control; Association of Operating Room Nurses; Association of State and Territorial Health Officials; Conference of State and Territorial Epidemiologists; U.S. Food and Drug Administration; Infectious Diseases Society of America; National Association of County Health Officials; National Dental Association; National Institutes of Health; National Medical Association; Nurses Association of the American College of Obstetricians and Gynecologists; Society of Hospital Epidemiologists of America; Surgical Infection Society; and United States Conference of Local Health Officers. In addition, a hospital administrator, a hospital medical director, and representatives from CDC participated in the meeting. These recommendations may not reflect the views of all individual consultants or the organizations they represented.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20,7009:

HTLV-III/LAV - Continued

department, or outpatient setting, including both physicians' and dentists' offices. An obstetric procedure is defined as a vaginal or cesarean delivery or other invasive obstetric procedure where bleeding may occur. A dental procedure is defined as the manipulation, cutting, or removal of any oral or perioral tissues, including tooth structure, where bleeding occurs or the potential for bleeding exists.

RECOMMENDATIONS

There have been no reports of HTLV-III/LAV transmission from an HCW to a patient or from a patient to an HCW during operative, obstetric, or dental invasive procedures. Nevertheless, special emphasis should be placed on the following precautions to prevent transmission of bloodborne agents between all patients and all HCWs who perform or assist in invasive procedures.

1. All HCWs who perform or assist in operative, obstetric, or dental invasive procedures must be educated regarding the epidemiology, modes of transmission, and prevention of HTLV-III/LAV infection and the need for routine use of appropriate barrier precautions during procedures and when handling instruments contaminated with blood after procedures.
2. All HCWs who perform or assist in invasive procedures must wear gloves when touching mucous membranes or nonintact skin of all patients and use other appropriate barrier precautions when indicated (e.g., masks, eye coverings, and gowns, if aerosolization or splashes are likely to occur). In the dental setting, as in the operative and obstetric setting, gloves must be worn for touching all mucous membranes and changed between all patient contacts. If a glove is torn or a needlestick or other injury occurs, the glove must be changed as promptly as safety permits and the needle or instrument removed from the sterile field.
3. All HCWs who perform or assist in vaginal or cesarean deliveries must use appropriate barrier precautions (e.g., gloves and gowns) when handling the placenta or the infant until blood and amniotic fluid have been removed from the infant's skin. Recommendations for assisting in the prevention of perinatal transmission of HTLV-III/LAV have been published (2).
4. All HCWs who perform or assist in invasive procedures must use extraordinary care to prevent injuries to hands caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments following procedures. After use, disposable syringes and needles, scalpel blades, and other sharp items must be placed in puncture-resistant containers for disposal. To prevent needlestick injuries, needles should not be recapped; purposefully bent or broken; removed from disposable syringes; or otherwise manipulated by hand. No data are currently available from controlled studies examining the effect, if any, of the use of needle-cutting devices on the incidence of needlestick injuries.
5. If an incident occurs during an invasive procedure that results in exposure of a patient to the blood of an HCW, the patient should be informed of the incident, and previous recommendations for management of such exposures (1) should be followed.
6. No HCW who has exudative lesions or weeping dermatitis should perform or assist in invasive procedures or other direct patient-care activities or handle equipment used for patient care.
7. All HCWs with evidence of any illness that may compromise their ability to adequately and safely perform invasive procedures should be evaluated medically to determine whether they are physically and mentally competent to perform invasive procedures.

HTLV-III/LAV — Continued

8. Routine serologic testing for evidence of HTLV-III/LAV infection is not necessary for HCWs who perform or assist in invasive procedures or for patients undergoing invasive procedures, since the risk of transmission in this setting is so low. Results of such routine testing would not practically supplement the precautions recommended above in further reducing the negligible risk of transmission during operative, obstetric, or dental invasive procedures.

Previous recommendations (1,3,4) should be consulted for: (1) preventing transmission of HTLV-III/LAV infection from HCWs to patients and patients to HCWs in health-care settings other than those described in this document; (2) preventing transmission from patient to patient; (3) sterilizing, disinfecting, housekeeping, and disposing of waste; and (4) managing parenteral and mucous-membrane exposures of HCWs and patients. Previously recommended precautions (1) are also applicable to HCWs performing or assisting in invasive procedures.

References

1. CDC. Recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. MMWR 1985;34:682-6, 691-5.
2. CDC. Recommendations for assisting in the prevention of perinatal transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus and acquired immunodeficiency syndrome. MMWR 1985;34:721-6, 731-2.
3. CDC. Acquired immune deficiency syndrome (AIDS): precautions for clinical and laboratory staffs. MMWR 1982;31:577-80.
4. CDC. Acquired immunodeficiency syndrome (AIDS): precautions for health-care workers and allied professionals. MMWR 1983;32:450-1.

*Epidemiologic Notes and Reports***Q Fever among Slaughterhouse Workers — California**

During May 1985, five cases of hepatitis were reported to the Solano County (California) Health Department among workers at a local meatpacking plant that processes sheep. Illnesses were characterized by fever, malaise, myalgias, severe headache, and abdominal pain, but no jaundice. Symptoms lasted at least 1 week, then gradually resolved. Hepatitis was suspected because all cases had moderately elevated SGOT values. However, none had serologic evidence of acute infection with either hepatitis A or B (i.e., negative immunoglobulin M [IgM] antibody to hepatitis A and hepatitis B surface antigen). Since all five patients were exposed to domestic animals in the course of their work, the differential diagnoses included Q fever, brucellosis, and leptospirosis. Sera from four of the patients who were originally thought to have had hepatitis from other causes were positive for IgM antibody to Q fever by the immunofluorescent antibody test (IFA), indicating recent infection.

A serosurvey was conducted to identify the extent of the outbreak. Forty-two of approximately 100 employees agreed to be surveyed, including the five employees described above. Twelve (29%) had complement-fixation (CF) titers to Q fever rickettsiae; eight (67%) of the

Q Fever — Continued

12 had recently experienced a clinical illness compatible with Q fever. Nineteen (45%) of the surveyed employees were positive by IFA test (but negative by CF test) for IgG antibody. Eleven of the 42 employees were negative both by CF and IFA. The 31 persons with serologic evidence of infection worked in a variety of jobs in areas throughout the plant, but no further investigation was performed to determine areas of highest risk.

Employees were educated about the illness through printed material and a question-and-answer session. A letter was mailed to physicians in the vicinity of the meatpacking plant informing them about Q fever. An investigation conducted by the California Occupational Health and Safety Administration resulted in the implementation of a surveillance program that included screening for Q fever by serology and for valvular heart disease among new employees. No feasible environmental control measures were identified.

Reported by E Lopez, MD, Solano County Health Dept, M Ascher, MD, Viral and Rickettsial Disease Laboratory, R Roberto, MD, Infectious Disease Br, J Chin, MD, State Epidemiologist, California State Dept of Health Svcs; Viral and Rickettsial Zoonoses Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Q fever, caused by the rickettsial organism *Coxiella burnetii*, is found in at least 51 countries on five continents. The primary reservoirs are cattle, sheep, goats, and ticks, but many species of animals, both wild and domestic, are susceptible to infection. The infection in animals is usually subclinical, although organisms are excreted in milk, urine, and feces. In the infected parturient ewe, rickettsiae are found in especially high numbers in amniotic fluid, placenta, and fetal membranes (the placenta may contain 10^9 organisms per gram during late gestation) (1). A single inhaled organism is sufficient to initiate infection. Because they are extremely resistant to desiccation and to physical agents, organisms survive for long periods in the inanimate environment (2).

Humans are usually infected by inhalation of aerosolized particles from contaminated environments. Disease resulting from sheep occurs most commonly during the lambing season because of the high numbers of organisms shed at this time. Humans are at risk at other times as well, since the organism may be shed periodically from domestic animals and may be found in raw milk, arthropods, and other animal products, e.g., wool. Other occupational exposures to sheep have accounted for four reported outbreaks among employees in urban research facilities (3).

The incubation period for Q fever in humans is 14-39 days, averaging 20 days. Most commonly, Q fever causes a mild influenza-like illness that rarely requires medical attention. Q fever may manifest as a systemic illness, as in the first four cases, with symptoms characterized by sudden onset of severe headache, retrobulbar pain, a fever of 40 C (104 F) or greater, chills, general malaise, myalgia, and chest pain. Other more severe manifestations may include pneumonia and hepatitis. Although the acute disease is usually self-limited, Q fever endocarditis occasionally develops, typically 3-20 years following the acute infection, and is often fatal (5,6). Patients with underlying heart disease are at particular risk, because it affects previously damaged heart valves. Prompt treatment with tetracycline or chloramphenicol is effective in shortening the course of acute illness (7).

Q fever has also been described among children. Infection with *C. burnetii* was diagnosed in 18 children under 3 years of age who were hospitalized in the Netherlands during a 16-month period (8). These patients presented most commonly with fever of unknown etiology or with pneumonia. Four of the children had relapsing episodes of fever that lasted 2-11 months before presentation. The duration of hospitalization averaged 25 days, and ranged from 4 days to 80 days.

Q fever is difficult to diagnose clinically, and radiologic findings of the lungs, when present,

Q Fever — Continued

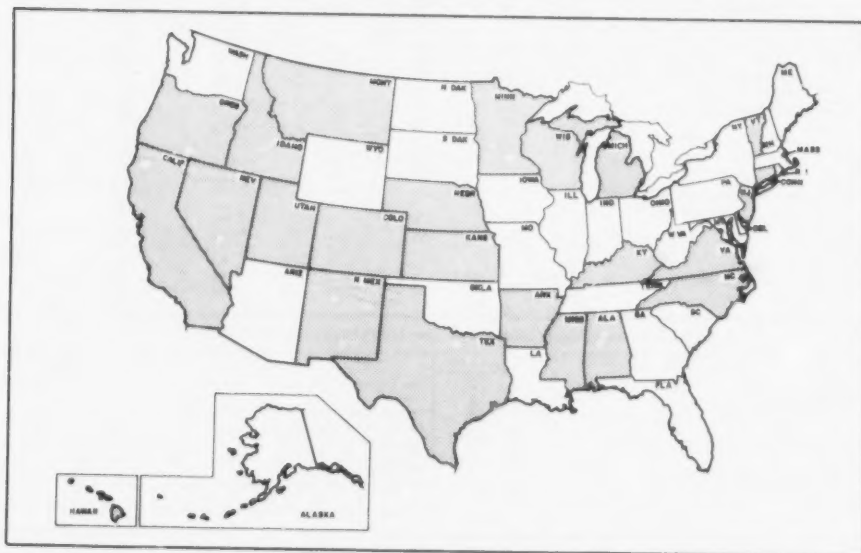
may not be diagnostic. However, the diagnosis is readily made serologically (9,10).

Q fever is reportable in 24 states (Figure 1). Because Q fever may be mild and self-limited or mistaken for an acute viral illness, diagnosis requires a high index of suspicion. An occupational history should be obtained; contact with animals should suggest Q fever or another zoonoses. Q fever should be considered in the differential diagnosis of patients with atypical pneumonia, an influenza-like illness during periods of low influenza activity, in patients with abnormal liver function tests when serologic evidence for hepatitis A or B is absent, and in children with fever of unknown origin (8). To facilitate diagnosis, a pilot state laboratory-based Q fever surveillance program has been initiated in California, Colorado, Idaho, Iowa, Montana, New Mexico, and Oregon. Participating state laboratories have volunteered to test selected serum specimens for Q fever antibody. Positive specimens are reported both to the physician and to the state epidemiologist, who subsequently completes a case history form. Physicians in these seven states are encouraged to report such cases through their local/state health departments to the Viral and Rickettsial Zoonoses Branch, Division of Viral Diseases, Center for Infectious Diseases, CDC.

References

1. Welsh HH, Lennette EH, Abinanti FR, et al. Air-borne transmission of Q fever: the role of parturition in the generation of infective aerosols. *Ann NY Acad Sci* 1958;70:528-40.
2. Ormsbee RA. Q fever rickettsia. In: Horsfall FL Jr, Tamm I, eds. *Viral and rickettsial infections of man*. 4th ed. Philadelphia: JB Lippincott, 1965:1144-60.
3. Meiklejohn G, Reimer LG, Graves PS, Helmick C. Cryptic epidemic of Q fever in a medical school. *J Infect Dis* 1981;144:107-13.
4. Ellis ME, Smith CC, Moffat MAJ. Chronic or fatal Q-fever infection: a review of 16 patients seen in North-East Scotland (1967-80). *Q J Med* 1983;52:54-66.
5. Turck WPG, Howitt G, Turnberg LA, et al. Chronic Q fever. *Quart J Med* 1976;45:193-217.

FIGURE 1. States that include Q fever on their official list of notifiable diseases



Q Fever — Continued

6. Wilson HG, Neilson GH, Galea EG, et al. Q fever endocarditis in Queensland. *Circulation* 1976;53:680-4.
7. Leedom JM. Q fever. In: Eickhoff TC, ed. *Practice of medicine*. vol. III. Hagerstown, Maryland: Harper & Row, 1978:1-19 (chapter 47).
8. Richardus JH, Dumas AM, Huisman J, Schaap GJP. Q fever in infancy: a review of 18 cases. *Pediatr Infect Dis* 1985;4:369-73.
9. Dupuis G, Péter O, Peacock M, Burgdorfer W, Haller E. Immunoglobulin responses in acute Q fever. *J Clin Micro* 1985;22:484-7.
10. Péter O, Dupuis G, Burgdorfer W, Peacock M. Evaluation of the complement fixation and indirect immunofluorescence tests in the early diagnosis of primary Q fever. *Eur J Clin Microbiol* 1985; 4:394-6.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	14th Week Ending			Cumulative, 14th Week Ending		
	Apr 5, 1986	Apr 6, 1985	Median 1981-1985	Apr 5, 1986	Apr 6, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	293	92	N	3,208	1,679	N
Aseptic meningitis	78	70	70	1,119	968	1,086
Encephalitis: Primary (arthropod-borne & unsp.)	13	22	17	221	250	235
Gonorrhea: Civilian	14,946	14,094	15,907	208,859	208,706	241,415
Hepatitis: Type A	213	200	471	4,107	5,059	6,483
Type B	396	420	407	5,998	5,705	6,159
Non A, Non B	527	522	427	6,512	6,597	6,098
Unspecified	89	69	N	874	1,106	N
Legionellosis	81	93	149	1,356	1,359	1,966
Leprosy	11	9	N	150	165	N
Malaria	7	6	6	71	108	57
Measles: Total*	23	14	16	188	181	181
Indigenous	94	70	69	1,433	617	617
Imported	3	48	N	1,393	501	N
Meningococcal infections: Total	61	52	81	40	116	N
Civilian	61	52	80	882	845	974
Military	-	-	-	2	1	3
Mumps	96	87	85	801	1,132	1,153
Pertussis	28	24	28	515	401	401
Rubella (German measles)	15	20	23	132	104	310
Syphilis (Primary & Secondary): Civilian	415	434	608	6,376	6,618	8,159
Military	4	7	4	56	50	99
Toxic Shock syndrome	7	6	N	80	102	N
Tuberculosis	390	359	440	5,055	4,928	5,737
Tularemia	-	-	3	17	24	25
Typhoid fever	9	7	7	60	66	99
Typhus fever, tick-borne (RMSF)	2	3	3	15	14	18
Rabies, animal	90	116	141	1,247	1,195	1,404

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986	Cum 1986
Anthrax	-	13
Botulism: Foodborne	3	-
Infant (Calif 2)	14	-
Other	-	16
Brucellosis (N. Y. City 1)	13	-
Cholera	-	10
Congenital rubella syndrome	1	7
Congenital syphilis, ages < 1 year	11	5
Diphtheria	-	-
Leptospirosis	-	-
Plague	-	-
Poliomyelitis, Paralytic	-	-
Psittacosis (Calif 2)	-	-
Rabies, human	-	-
Tetanus (N. J. 1, Ga. 1)	-	-
Trichinosis	-	-
Typhus fever, flea-borne (endemic, murine) (Calif 4)	-	-

*Two of the 94 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
April 5, 1986 and April 6, 1985 (14th Week)

Reporting Area	AIDS Cum 1986	Aseptic Meningi- tis 1986	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis 1986	Leprosy Cum 1986
			Primary Cum 1986	Post-in- fectious Cum 1986	Cum 1986	Cum 1985	A 1986	B 1986	NA,NB 1986	Unspeci- fied 1986		
UNITED STATES	3,208	78	221	19	208,859	208,706	396	527	83	81	11	71
NEW ENGLAND	129	1	10	1	4,885	6,685	19	44	1	8	-	1
Maine	6	-	-	-	243	263	-	-	-	-	-	-
NH	6	-	2	-	141	135	-	-	-	-	-	-
Vt	2	-	2	1	78	61	-	1	-	-	-	-
Mass	72	1	3	-	2,074	2,512	7	35	1	8	-	1
RI	9	-	-	-	455	484	2	3	-	-	-	-
Conn	34	-	3	-	1,894	3,230	10	5	-	-	-	-
MID ATLANTIC	1,227	6	36	-	37,373	27,678	24	29	3	6	-	7
Upstate NY	103	3	12	-	4,089	4,146	15	17	1	-	-	-
NY City	837	-	9	-	22,495	11,822	-	-	-	6	-	7
NJ	199	-	4	-	4,270	6,090	9	12	2	-	-	-
Pa	88	3	11	-	6,519	5,620	-	-	-	-	-	-
E N CENTRAL	161	5	46	2	26,311	30,523	33	46	6	5	4	3
Ohio	30	1	15	2	7,421	7,557	18	22	2	3	2	-
Ind	22	1	4	-	4,220	2,981	-	7	1	-	-	-
Ill	70	2	6	-	3,821	8,994	9	7	1	1	-	2
Mich	34	1	20	-	9,161	8,674	6	10	2	1	2	1
Wis	5	-	1	-	1,688	2,317	-	-	-	-	-	-
W N CENTRAL	68	1	5	1	9,787	10,605	5	15	3	3	-	1
Minn	29	-	3	-	1,420	1,577	1	-	-	-	-	1
Iowa	7	1	2	-	963	1,128	-	2	2	-	-	-
Mo	20	-	-	-	4,793	4,902	2	13	1	3	-	-
N Dak	2	-	-	-	96	78	1	-	-	-	-	-
S Dak	1	-	-	-	195	189	-	-	-	-	-	-
Nebr	3	-	-	-	696	1,027	1	-	-	-	-	-
Kans	6	-	-	1	1,624	1,704	-	-	-	-	-	-
S ATLANTIC	414	23	37	11	46,977	45,288	32	94	7	6	2	1
Del	8	-	3	-	902	953	2	-	-	-	-	-
Md	43	0	10	-	6,780	7,237	7	32	1	2	-	-
D C	70	-	-	-	4,222	3,688	1	1	-	-	-	-
Va	47	4	14	-	4,742	4,839	1	4	1	1	-	1
W Va	2	1	4	-	651	588	-	-	-	-	-	-
NC	21	4	5	1	9,368	8,670	2	3	-	-	1	-
SC	15	-	-	-	4,980	5,607	-	3	1	1	-	-
Ga	27	2	-	-	-	-	5	18	1	-	-	-
Fla	181	4	1	10	15,332	13,706	14	33	3	2	1	-
E S CENTRAL	32	11	16	1	18,328	18,583	4	33	9	2	2	-
Ky	10	3	6	-	2,197	2,042	-	7	2	-	2	-
Tenn	13	2	1	1	7,224	7,290	-	11	2	1	-	-
Ala	5	6	9	-	5,038	5,760	2	13	5	1	-	-
Miss	4	-	-	-	3,869	3,491	2	2	-	-	-	-
W S CENTRAL	275	9	17	-	26,872	29,538	43	46	15	26	2	5
Ark	9	-	-	-	2,522	2,801	3	4	-	1	-	-
La	34	3	1	-	4,719	6,116	2	3	1	-	-	-
Okla	11	1	4	-	3,087	2,971	8	8	5	2	-	-
Tex	221	5	12	-	16,544	17,650	30	31	9	23	2	5
MOUNTAIN	79	4	10	1	6,928	6,867	35	42	9	6	-	7
Mont	1	-	-	1	175	210	-	-	-	-	-	-
Idaho	1	-	-	-	232	239	1	-	1	-	-	-
Wyo	2	-	2	-	159	188	2	-	-	-	-	-
Colo	36	3	2	-	1,711	2,029	2	5	-	2	-	3
N Mex	6	-	-	-	718	816	8	11	-	-	-	-
Ariz	18	-	4	-	2,187	2,033	17	18	8	4	-	2
Utah	6	-	1	-	290	276	3	2	-	-	-	-
Nev	9	1	1	-	1,456	1,076	2	6	-	-	-	2
PACIFIC	823	18	44	2	31,398	32,939	201	178	36	19	1	46
Wash	34	2	4	-	2,374	2,385	12	21	4	-	1	5
Oreg	14	-	-	-	1,229	1,738	40	12	2	-	-	-
Calif	757	16	38	2	26,561	27,473	148	141	30	18	-	37
Alaska	8	-	2	-	879	827	-	3	-	1	-	-
Hawaii	10	-	-	-	355	516	1	1	-	-	-	4
Guam	-	-	-	-	22	46	1	-	-	2	-	1
PR	30	2	2	-	615	1,068	1	1	-	10	-	-
VI	-	-	-	-	61	115	1	-	-	-	-	-
Pac Trust Terr	-	-	-	-	26	235	6	-	-	1	-	1
Amer Samoa	-	-	-	-	8	-	2	-	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 5, 1986 and April 6, 1986 (14th Week)

Reporting Area	Measles	Measles (Rubella)				Total	Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *				1986	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985									
UNITED STATES	188	91	1,393	3	40	617	884	96	801	28	515	401	15	132	104
NEW ENGLAND	11	-	9	-	-	40	64	11	25	3	35	18	-	1	5
Maine	-	-	-	-	-	-	11	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	-	5	2	14	11	-	1	2
Vt.	1	-	-	-	-	-	9	-	-	-	1	2	-	-	-
Mass.	6	-	9	-	-	40	14	-	1	-	9	2	-	-	3
R.I.	1	-	-	-	-	-	8	-	4	-	1	1	-	-	-
Conn.	3	-	-	-	-	-	19	11	15	1	8	-	-	-	-
MID ATLANTIC	24	33	501	-	3	41	153	2	52	6	74	53	-	23	28
Upstate N.Y.	3	-	1	-	2	19	42	2	21	6	47	29	-	15	6
N.Y. City	7	23	78	-	1	20	38	-	5	-	5	7	-	5	7
N.J.	3	10	424	-	-	2	25	-	10	-	4	1	-	3	3
Pa.	11	-	-	-	-	-	50	-	18	-	18	16	-	-	12
E.N. CENTRAL	4	2	138	-	2	237	106	53	376	4	121	65	-	1	9
Ohio	1	-	-	-	-	11	51	4	49	3	62	13	-	-	-
Ind.	-	-	-	-	-	1	10	1	15	-	9	11	-	-	-
Ill.	2	2	78	-	-	138	26	37	189	-	14	11	-	-	3
Mich.	1	-	-	-	-	48	19	11	60	1	13	7	-	-	5
Wis.	-	-	60	-	2	39	-	-	63	-	23	23	-	1	1
W.N. CENTRAL	5	5	70	-	-	4	42	1	23	-	27	36	-	2	7
Minn.	2	-	-	-	-	1	10	-	1	-	15	11	-	-	-
Iowa	1	-	-	-	-	-	6	1	6	-	4	-	-	-	-
Mo.	2	-	-	-	-	2	16	-	7	-	3	8	-	1	-
N. Dak.	-	-	-	-	-	-	-	-	2	-	2	6	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Kans.	-	5	70	-	-	1	2	-	6	-	3	9	-	1	7
S. ATLANTIC	23	34	222	2	4	38	195	3	64	7	99	94	-	6	7
Del.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md.	3	1	6	2†	2	3	23	-	4	1	21	25	-	-	1
D.C.	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-
Va.	6	-	-	-	-	12	38	-	9	-	9	2	-	-	-
W. Va.	-	-	-	-	-	2	2	-	23	-	2	-	-	-	-
N.C.	3	-	-	-	-	-	32	-	4	2	15	7	-	-	-
S.C.	-	33	205	-	-	-	24	1	7	-	2	-	-	-	2
Ga.	3	-	-	-	1	8	29	1	5	2	42	45	-	-	-
Fla.	8	-	11	-	1	10	47	1	12	2	8	15	-	6	4
E.S. CENTRAL	4	-	-	-	-	-	45	2	7	1	15	4	-	1	1
Ky.	2	-	-	-	-	-	6	-	2	-	1	1	-	1	1
Tenn.	-	-	-	-	-	-	21	2	3	1	5	1	-	-	-
Ala.	2	-	-	-	-	-	13	-	1	-	9	2	-	-	-
Miss.	-	-	-	-	-	-	5	-	1	-	-	-	-	-	-
W.S. CENTRAL	14	3	284	-	12	12	61	10	68	3	24	32	4	27	13
Ark.	-	-	265	-	-	-	8	1	6	-	1	7	-	-	1
La.	4	-	-	-	-	1	7	-	-	-	3	1	-	-	-
Okla.	1	-	2	-	-	-	10	N	N	3	20	24	-	-	-
Tex.	9	3	17	-	12	11	36	9	62	-	-	-	4	27	12
MOUNTAIN	5	10	48	1	6	168	35	3	94	1	68	20	-	-	3
Mont.	-	-	-	-	1	120	4	-	2	-	-	2	-	-	-
Idaho	1	-	-	-	-	-	1	-	2	-	15	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo.	1	-	-	1§	3	-	7	-	4	-	16	6	-	-	-
N. Mex.	-	2	15	-	2	-	4	N	N	-	8	3	-	-	1
Ariz.	2	8	33	-	-	48	12	3	82	1	21	3	-	-	1
Utah	-	-	-	-	-	-	3	-	1	-	8	4	-	-	-
Nev.	1	-	-	-	-	-	2	-	3	-	-	-	-	-	-
PACIFIC	98	4	121	-	13	79	182	11	92	3	52	79	11	71	31
Wash.	9	1	23	-	7	1	24	-	4	-	23	11	1	1	-
Oreg.	8	-	-	-	2	2	14	N	N	-	2	16	-	-	1
Calif.	81	3	82	-	4	69	139	11	81	3	24	48	10	70	28
Alaska	-	-	-	-	-	-	5	-	2	-	1	2	-	-	-
Hawaii	-	-	16	-	-	7	1	-	5	-	2	2	-	-	2
Guam	1	1	2	-	-	10	-	-	1	-	-	-	-	2	1
P.R.	1	-	-	-	-	40	2	-	14	-	2	1	-	-	4
V.I.	-	-	-	-	-	9	-	-	6	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable [†]International [§]Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 5, 1986 and April 6, 1986 (14th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	6,376	6,618	7	5,055	4,928	17	60	15	1,247
NEW ENGLAND	135	148	1	155	173	-	2	1	1
Maine	9	5	-	17	14	-	-	-	-
N.H.	6	3	1	3	6	-	-	-	-
Vt.	4	-	-	7	2	-	-	-	-
Mass.	67	90	-	77	104	-	1	1	-
R.I.	8	5	-	5	16	-	-	-	1
Conn.	41	55	-	46	31	-	1	-	-
MID ATLANTIC	932	877	1	980	970	-	6	1	117
Upstate N.Y.	47	61	-	155	132	-	1	1	19
N.Y. City	522	555	-	492	528	-	4	-	-
N.J.	188	186	1	185	87	-	-	-	-
Pa.	175	65	-	169	223	-	-	-	98
E.N. CENTRAL	164	331	1	655	620	-	4	-	22
Ohio	34	29	-	94	123	-	-	-	2
Ind.	38	28	-	77	74	-	-	-	6
Ill.	39	178	-	287	276	-	-	-	4
Mich.	35	81	1	159	115	-	3	-	3
Wis.	18	15	-	38	32	-	1	-	7
W.N. CENTRAL	65	74	-	140	133	6	3	-	155
Minn.	8	19	-	30	23	-	1	-	13
Iowa	5	11	-	11	21	1	-	-	37
Mo.	37	28	-	78	62	5	2	-	16
N. Dak.	2	-	-	3	2	-	-	-	42
S. Dak.	-	4	-	2	5	-	-	-	40
Nebr.	6	3	-	4	7	-	-	-	5
Kans.	5	9	-	12	13	-	-	-	2
S. ATLANTIC	1,656	1,671	1	1,016	976	4	6	5	327
Del.	10	14	-	12	9	-	-	-	-
Md.	131	129	-	76	81	1	-	-	191
D.C.	104	88	-	42	42	-	-	-	-
Va.	132	89	-	92	77	1	2	1	56
W. Va.	3	2	-	38	22	-	-	-	8
N.C.	149	194	-	137	107	1	2	2	-
S.C.	178	220	1	129	127	-	-	2	10
Ge.	-	-	-	118	145	1	-	-	41
Fla.	949	935	-	372	366	-	2	-	21
E.S. CENTRAL	456	602	2	448	425	3	-	5	71
Ky.	25	21	1	125	90	2	-	1	23
Tenn.	181	156	-	126	130	1	-	-	30
Ala.	154	208	1	147	151	-	-	1	18
Miss.	96	217	-	50	54	-	-	3	-
W.S. CENTRAL	1,476	1,610	-	628	490	3	2	3	163
Ark.	77	82	-	74	40	2	-	-	34
La.	237	281	-	125	82	-	-	-	4
Okla.	45	48	-	52	66	1	1	1	17
Tex.	1,117	1,199	-	377	302	-	1	2	108
MOUNTAIN	180	232	1	101	103	-	2	-	206
Mont.	3	1	1	5	16	-	-	-	81
Idaho	1	2	-	4	2	-	-	-	-
Wyo.	-	5	-	-	1	-	-	-	85
Colo.	53	53	-	1	11	-	-	-	-
N. Mex.	22	27	-	25	19	-	-	-	2
Ariz.	78	129	-	51	46	-	1	-	39
Utah	3	3	-	4	3	-	1	-	-
Nev.	20	12	-	11	5	-	-	-	-
PACIFIC	1,312	1,073	-	932	1,038	1	35	-	185
Wash.	16	39	-	52	47	-	2	-	-
Oreg.	27	27	-	35	34	-	-	-	-
Calif.	1,255	987	-	783	863	-	31	-	179
Alaska	-	-	-	12	44	1	-	-	6
Hawaii	14	20	-	50	50	-	2	-	-
Guam	1	2	-	-	12	-	-	-	-
P.R.	222	253	-	71	75	-	1	-	14
V.I.	-	1	-	-	1	-	-	-	-
Pac. Trust Terr.	12	15	-	7	23	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
April 5, 1986 (14th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	756	547	129	34	21	25	74	S. ATLANTIC	1,406	878	317	122	48	40	60
Boston, Mass.	190	127	36	11	6	10	28	Atlanta, Ga.	154	89	43	14	6	2	3
Bridgeport, Conn.	38	31	4	2	1	-	2	Baltimore, Md.	283	175	68	25	9	6	10
Cambridge, Mass.	28	26	2	-	-	-	7	Charlotte, N.C.	78	51	13	10	1	3	6
Fall River, Mass.	31	22	8	-	1	-	-	Jacksonville, Fla.	112	66	29	7	0	1	2
Hartford, Conn.	84	80	13	3	2	6	6	Miami, Fla.	109	57	22	17	8	5	4
Lowell, Mass.	31	24	4	2	1	-	3	Norfolk, Va.	47	35	8	2	1	1	3
Lynn, Mass.	20	14	6	-	-	-	-	Richmond, Va.	88	57	23	5	2	1	3
New Bedford, Mass.	35	28	4	2	1	-	-	Savannah, Ga.	65	47	8	5	3	2	2
New Haven, Conn.	54	37	11	2	1	3	7	St. Petersburg, Fla.	101	83	13	3	-	2	12
Providence, R.I.	68	50	11	4	1	2	5	Tampa, Fla.	82	51	17	7	4	2	9
Somerville, Mass.	9	8	1	-	-	-	-	Washington, D.C.	255	143	67	26	4	15	5
Springfield, Mass.	42	29	7	2	3	1	3	Wilmington, Del.	32	24	6	1	1	-	1
Waterbury, Conn.	49	34	10	4	1	-	5								
Worcester, Mass.	77	57	12	2	3	3	6								
MID ATLANTIC	2,740	1,824	551	249	51	63	147	E.S. CENTRAL	797	518	179	57	23	20	53
Albany, N.Y.	50	33	7	7	1	2	3	Birmingham, Ala.	152	85	46	12	5	4	6
Allentown, Pa.	14	13	1	-	-	-	-	Chattanooga, Tenn.	67	41	13	7	5	1	9
Buffalo, N.Y.	104	73	20	5	2	4	8	Knoxville, Tenn.	89	62	21	3	2	1	10
Camden, N.J.	46	33	8	2	-	3	3	Louisville, Ky.	91	60	15	7	2	7	8
Elizabeth, N.J.	31	23	7	1	-	-	1	Memphis, Tenn.	162	118	28	14	1	1	8
Erie, Pa.	43	28	13	2	-	-	1	Mobile, Ala.	66	45	14	4	2	1	5
Jersey City, N.J.	73	49	12	10	1	1	2	Montgomery, Ala.	45	27	10	1	5	2	-
N.Y. City, N.Y.	1,340	875	255	155	31	24	62	Nashville, Tenn.	125	80	32	9	1	3	7
Newark, N.J.	62	31	17	10	2	2	4								
Paterson, N.J.	34	23	6	3	-	2	1	W.S. CENTRAL	1,534	954	336	140	53	51	57
Philadelphia, Pa.	494	329	107	33	8	17	31	Austin, Tex.	68	43	7	9	6	3	1
Pittsburgh, Pa.	77	56	15	4	1	1	3	Baton Rouge, La.	50	25	14	5	6	-	2
Reading, Pa.	31	25	3	2	1	-	4	Corpus Christi, Tex.	42	31	8	3	-	-	1
Rochester, N.Y.	125	83	29	6	2	3	9	Dallas, Tex.	179	102	47	17	7	6	3
Schenectady, N.Y.	28	22	5	1	-	-	3	El Paso, Tex.	56	45	8	-	1	2	5
Scranton, Pa.	34	24	8	1	1	-	3	Fort Worth, Tex.	109	68	25	10	5	1	3
Syracuse, N.Y.	81	54	22	3	1	1	5	Houston, Tex.	429	266	95	38	12	18	13
Trenton, N.J.	19	9	6	2	-	2	1	Little Rock, Ark.	75	47	18	7	1	2	8
Utica, N.Y.	26	19	6	-	-	1	2	New Orleans, La.	148	100	26	16	4	2	-
Yonkers, N.Y.	28	22	4	2	-	-	1	San Antonio, Tex.	161	102	32	14	5	8	13
								Shreveport, La.	85	47	20	11	-	7	3
								Tulsa, Okla.	132	78	36	10	6	2	5
E.N. CENTRAL	2,444	1,616	521	166	61	80	103	MOUNTAIN	758	471	147	67	33	39	43
Akron, Ohio	70	49	15	2	1	3	2	Albuquerque, N.Mex.	102	63	12	16	9	1	9
Canton, Ohio	42	31	8	1	1	1	5	Colorado Springs, Colo.	46	29	6	6	-	5	3
Chicago, Ill.	556	354	125	42	12	23	17	Denver, Colo.	120	69	18	11	6	16	4
Cincinnati, Ohio	150	99	36	8	5	2	13	Las Vegas, Nev.	96	54	27	13	-	2	7
Cleveland, Ohio	177	99	46	16	4	12	3	Ogden, Utah	29	15	10	1	2	1	-
Columbus, Ohio	166	107	43	9	3	4	10	Phoenix, Ariz.	161	106	35	6	7	7	6
Dayton, Ohio	113	68	31	6	4	4	2	Pueblo, Colo.	22	15	3	2	1	1	3
Detroit, Mich.	238	142	54	27	8	7	10	Salt Lake City, Utah	55	36	10	2	2	5	-
Evansville, Ind.	40	28	9	-	2	1	-	Tucson, Ariz.	127	84	26	10	6	1	11
Fort Wayne, Ind.	61	49	8	2	1	1	6								
Gary, Ind.	19	12	6	1	-	-	-	PACIFIC	1,955	1,248	421	155	66	55	116
Grand Rapids, Mich.	71	48	11	2	4	6	8	Berkeley, Calif.	10	9	1	-	-	-	-
Indianapolis, Ind.	226	142	54	15	7	8	5	Fresno, Calif.	77	53	13	2	6	3	6
Madison, Wis.	40	28	9	2	1	-	3	Glendale, Calif.	30	26	3	1	-	-	2
Milwaukee, Wis.	139	110	15	10	1	3	5	Honolulu, Hawaii	105	66	27	6	3	3	8
Peoria, Ill.	43	35	5	2	-	1	1	Long Beach, Calif.	77	47	22	5	2	1	12
Rockford, Ill.	50	37	5	4	1	3	3	Los Angeles, Calif.	586	370	123	55	23	7	23
South Bend, Ind.	54	37	9	6	1	1	4	Oakland, Calif.	73	46	20	5	1	1	2
Toledo, Ohio	120	82	25	8	5	-	4	Pasadena, Calif.	21	17	2	-	-	2	2
Youngstown, Ohio	69	59	7	3	-	-	2	Portland, Oreg.	138	91	28	11	5	3	6
								Sacramento, Calif.	127	80	26	12	4	5	3
W.N. CENTRAL	762	527	148	44	16	27	39	San Diego, Calif.	149	90	32	11	8	8	18
Des Moines, Iowa	62	47	8	5	-	2	7	San Francisco, Calif.	154	93	34	20	1	6	11
Duluth, Minn.	22	14	3	1	-	4	-	San Jose, Calif.	149	87	43	9	5	4	12
Kansas City, Kans.	38	28	7	2	1	-	1	Seattle, Wash.	150	101	27	12	5	5	5
Kansas City, Mo.	130	91	27	5	6	1	8	Spokane, Wash.	58	37	10	4	2	4	5
Lincoln, Nebr.	36	26	7	3	-	-	1	Tacoma, Wash.	51	35	10	2	1	3	1
Minneapolis, Minn.	88	58	17	7	3	3	4								
Omaha, Nebr.	101	69	20	3	1	8	11	TOTAL	13,152 ^{††}	8,583	2,749	1,034	372	400	692
St. Louis, Mo.	156	105	31	11	4	5	2								
St. Paul, Minn.	62	36	16	5	1	4	3								
Wichita, Kans.	67	53	12	2	-	-	2								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

*Current Trends***Safety of Therapeutic Immune Globulin Preparations
with Respect to Transmission of Human T-Lymphotropic Virus
Type III/Lymphadenopathy-Associated Virus Infection**

Immune globulins produced by plasma fractionation methods approved for use in the United States have not been implicated in the transmission of infectious agents. Nevertheless, because immune globulins manufactured before 1985 were derived from plasma of human donors who were not screened for antibody to human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), CDC and the U.S. Food and Drug Administration (FDA) have received inquiries concerning the safety of immune globulin (IG), hepatitis B immune globulin (HBIG), and intravenous immune globulin (IVIG). Current epidemiologic and laboratory evidence shows that these preparations carry no discernable risk of transmitting HTLV-III/LAV infection and that current indications for their clinical use should not be changed based on such concerns.

BACKGROUND

The IG, HBIG, IVIG, and other special immune globulins used in the United States are produced by several manufacturers using the Cohn-Oncley fractionation process (1,2). This process involves a series of precipitation steps performed in the cold with addition of varying concentrations of ethanol. Production lots of IG and IVIG are made from plasma pools from at least 1,000 donors; HBIG and other specific immune globulins (e.g., varicella-zoster IG) may be prepared from plasma pools from fewer donors.

Before 1985, donors were screened only for hepatitis B surface antigen but not by other tests for specific diagnosis of viral infections. Since April 1985, all donor units also have been screened for antibodies to HTLV-III/LAV, and all repeatedly reactive units have been discarded. Tests conducted at FDA and CDC have shown that as many as two-thirds of HBIG lots, as well as some lots of IG and IVIG, produced between 1982 and 1985 may have been positive for HTLV-III/LAV antibody. The question of safety arises out of concern that some immune globulins currently available were prepared from plasma pools that included units from donors who may have had HTLV-III/LAV viremia.

EPIDEMIOLOGIC STUDIES

Several studies have shown that recipients of HBIG and IG, including recipients of lots known to be positive for antibody to HTLV-III/LAV, did not seroconvert to antibody to HTLV-III/LAV-positivity and have not developed signs and symptoms of acquired immunodeficiency syndrome (AIDS) or other illnesses suggesting HTLV-III/LAV infection.

Since August 1983, CDC has enrolled 938 individuals who have had parenteral or mucous-membrane exposures to blood or body fluids of AIDS patients in a prospective surveillance study. To date, 451 entrants have been followed and tested for HTLV-III/LAV antibody. Of these, 183 persons received IG and/or HBIG as prophylaxis against hepatitis B infection; 100 (55%) received only IG; 65 (36%) received only HBIG; and 18 (10%) received both. One of the 183 HBIG recipients is now positive for HTLV-III/LAV antibody, but no preexposure serum was available for this individual, and seropositivity may have predated the needlestick exposure and IG prophylaxis. Further, heterosexual transmission of HTLV-III/LAV infection in this individual cannot be ruled out. No documented seroconversions have occurred in any of the 183 health-care workers who received IG or HBIG.

Studies have been reported of 16 subjects who received HBIG that was strongly positive for HTLV-III/LAV antibody (3). Each patient had been given one to five ampules. A total of 31

Immune Globulins — Continued

doses were administered to 16 individuals. Low levels of passively acquired HTLV-III/LAV antibody were detected shortly after injection, but reactivity did not persist. Six months after the last HBIG injection, none of the 16 individuals had antibody to HTLV-III/LAV.

In a study of prophylaxis against cytomegalovirus (CMV) infections among kidney-transplant patients, 16 patients received CMV-specific IVIG preparations subsequently found to contain HTLV-III/LAV antibody. After 10 months or longer of follow-up, none of the 16 recipients developed antibody or other evidence of HTLV-III/LAV infection.

In studies of a group of IVIG recipients, most of whom had idiopathic thrombocytopenia, none of 134 patients developed antibodies or other evidence of HTLV-III/LAV infection.

Information regarding past therapy with immune globulins is available from 10,227 of 17,115 AIDS patients reported to CDC. Three hundred fifty-eight (4%) reported receipt of an IG preparation. All but seven of these patients also were members of groups known to be at high risk for developing AIDS. The percentage of patients with no recognized risk factors for AIDS was not significantly different among those who received immune globulins (7/358 [2%]) than among those who did not (358/9,869 [4%]).

LABORATORY STUDIES

Scientists at FDA recently evaluated the basic fractionation processes (1,2) used for production of immune globulins to determine effectiveness of those procedures in eliminating HTLV-III/LAV infectivity (4). Six sequential steps in a typical process were evaluated. The study was designed so that efficiency of eliminating HTLV-III/LAV at each step was measured. The degree to which HTLV-III/LAV was reduced by partitioning or inactivation at individual steps ranged from 10^{-1} to more than 10^{-4} of in vitro infectious units (IVIU)/ml. The effectiveness of virus removal in the entire process by partitioning and inactivation was calculated to be greater than 1×10^{15} IVIU/ml.

Concentrations of infectious HTLV-III/LAV in plasma of infected persons have been estimated to be less than 100 IVIU/ml. Further, FDA scientists have shown that the geometric mean infectivity titer of plasma from 43 HTLV-III/LAV infected persons was 0.02 IVIU/ml (4). Thus, the margin of safety based on the removal of infectivity by the fractionation process is extremely high.

Scientists at CDC and FDA also cultured 38 lots of HBIG, IVIG, and IG, most of which contained HTLV-III/LAV antibody. HTLV-III/LAV was not recovered from any lot tested.

Reported by J Bossell, MD, Cornell University, New York City; Central Laboratories Swiss Red Cross Blood Transfusion Svc, Berne, Switzerland; Immuno A.G., Vienna, Austria; KabiVitrum AB, Stockholm, Sweden; Massachusetts Public Health Biologics Laboratories, Boston, Massachusetts; Miles Laboratories, Inc., Berkeley, Travenol Laboratories, Inc., Glendale, California; Center for Drugs and Biologics, U.S. Food and Drug Administration; Center for Infectious Diseases, CDC.

Editorial Note: The laboratory and epidemiologic studies referred to have shown that concern about HTLV-III/LAV infection associated with the use of immune globulins available in the United States is not warranted. Strategies for using immune globulins recommended by the Immunization Practices Advisory Committee should be followed (5).

Recently, concern has been expressed that patients who received IG prepared from plasma of donors not screened for HTLV-III/LAV antibody may have a passively acquired false-positive reaction for antibody (6). Passively acquired HTLV-III/LAV antibody from HBIG known to contain high levels of antibody has been reported (3). Based on the estimated half-life of globulins in plasma, it can be calculated that passively acquired antibodies might be detected in sera of recipients for as long as 6 months after administration of immune globulins. It is important to recognize this possibility when attempting to determine the significance of HTLV-III/LAV antibody in a person who has recently received immune globulins, especially HBIG.

*Immune Globulins — Continued**References*

1. Cohn EJ, Strong LE, Hughes WJ Jr, et al. Preparation and properties of serum and plasma proteins. IV: A system for the separation into fractions of protein and lipoprotein components of biological tissues and fluids. *J Am Chem Soc* 1946;68:459-75.
2. Oncley JL, Melin M, Richert DA, Cameron JW, Gross PM Jr. The separation of the antibodies isoagglutinins, prothrombin, plasmonogen and beta-lipoprotein into subfractions of human plasma. *J Am Chem Soc* 1949;71:541-50.
3. Tedder RS, Uttley A, Cheingsong-Popov R. Safety of immunoglobulin preparation containing anti-HTLV-III [Letter]. *Lancet* 1985;i:815.
4. Wells MA, Wittek A, Marcus-Sekura C, et al. Chemical and physical inactivation of human T lymphotropic virus, Type III (HTLV-III). *Transfusion* 1986;26:110-30.
5. ACIP. Recommendations for protection against viral hepatitis. *MMWR* 1985;34:313-24, 329-35.
6. Steele DR. HTLV-III antibodies in human immune γ -globulin [Letter]. *JAMA* 1986;255:609.

*Epidemiologic Notes and Reports***Tornado Disaster — Pennsylvania**

On the afternoon and evening of May 31, 1985, 27 tornadoes swept across parts of Ohio, Pennsylvania, western New York, and Ontario, killing at least 91 persons, injuring more than 800 others, and leaving thousands more homeless. This disaster was the worst tornado storm in the United States since April 1974, when 315 people were killed by twisters that swept through 11 states, causing damage totaling more than \$600 million.

In Pennsylvania, the hardest-hit state, these tornadoes resulted in 65 dead, 700 injured, 1,000 homes destroyed, and hundreds of millions of dollars in property damage. The 13 tornadoes that struck Pennsylvania ranged in speed from 75 mph to 250 mph, in width from 100 yards to 2 miles, and in distance on the ground from 4 to 56 miles. According to the Pennsylvania Emergency Management Agency, Pennsylvania has averaged eight tornadoes a year since 1953. The 1985 tornadoes were the worst to hit the state since record-keeping began in 1854. The worst previous tornado had been in June 1944, when 45 people were killed, 362 injured, and 800 homes damaged in the southwestern part of the state.

Previously, CDC evaluated tornado disasters in Texas (1), Illinois (2), and the Carolinas (3). These studies assessed various factors hypothesized to influence the risk of injury from tornadoes. For the Pennsylvania tornado disaster, a study was designed to document information on deaths and hospitalizations to evaluate selected factors that may influence why some people die from their injuries, while others do not. The study focused on five contiguous counties (Erie, Crawford, Mercer, Venango, and Forest) that were hardest hit (46 of the 65 fatalities). Due to the total relocation of highly affected neighborhoods and the inability to identify a representative sampling frame for uninjured persons in the immediate post-tornado period, the study looked at fatally injured and hospitalized injured persons. The latter were frequency matched to fatally injured persons 2:1 on two variables, tornado track and age stratum, and compared to detect risk factors for lethality. Public health nurses from the Pennsylvania Northwestern District Health Department were trained to use a standardized questionnaire and conducted the in-

Tornado Disaster — Continued

interviews in person whenever possible. Interviews were completed with respondents (next-of-kin, neighbor) for 89% of the fatally injured and with respondents (self, next-of-kin) for 90% of the hospitalized persons.

Certain demographic and impact-phase characteristics (age, sex, location, protective warning, and protective measures) have been found in previous studies to be risk factors for injury; however, in this study, these characteristics did not appear to explain severity of injury (Table 1). Assessment of injury outcome characteristics in this study revealed that fatally injured persons were more likely to sustain injuries to the head and/or neck than were seriously injured persons. Further review of fatally injured persons showed that all but a few appeared to have been killed "instantaneously" and did not die en route to or in hospitals.

Reported by F Sellers, PhD, Northwest District, Meadville, D Reid, MD, AB Rakow, DO, JN Logue, DrPH, EJ Witte, VMD, State Epidemiologist, Pennsylvania Dept of Health; Div of Environmental Hazards and Health Effects, Center for Environmental Health, CDC.

Editorial Note: Public health consequences of tornadoes are very important in the United

TABLE 1. Percentage distribution of selected risk factors among hospitalized and fatally injured persons in a tornado disaster — western Pennsylvania, 1985

Risk factor	Fatally injured (n = 41)	Hospitalized (n = 83)
Sex		
Female	56.1	53.0
Male	43.9	47.0
Location		
Inside home	56.1	77.1
Working outside	2.4	1.2
Shopping	2.4	0.0
Recreation inside	2.4	0.0
Recreation outside	4.9	6.0
In car	9.8	8.4
Other	2.4	4.8
Unknown	19.5	2.4
First warning of tornado		
Saw tornado, high winds, or flying debris	19.5	36.1
Heard tornado	12.2	12.0
Saw alert on TV	2.4	9.6
Heard by word of mouth	12.2	14.5
Heard by telephone	2.4	2.4
Heard siren	0.0	2.4
Other	7.3	14.5
Unknown	43.9	8.4
Victim warned of tornado		
Yes	26.8	30.1
No	29.3	66.3
Unknown	43.9	3.6
Victim tried to warn others		
Yes	9.8	21.7
No	46.4	75.9
Unknown	43.9	2.4

Tornado Disaster — Continued

States. During the 1970s, 507 tornado-related disasters resulted in 830 persons killed, 20,969 persons injured, and 490,316 persons treated with emergency care (4).

The present study shows that, for selected known risk factors, fatally injured persons did not differ significantly from seriously injured (hospitalized) persons. Since deaths were usually "instantaneous," differences among postevent factors, recovery/transport times, and efficacy of emergency medical care do not appear to have contributed to fatal outcome. More likely explanations include differences in amounts of mechanical energy impacting critical body parts and/or unrecognized preevent or event-phase risk factors. Future research and public health attention should be geared to such preventive activities as early warning and education.

Overall statistics showed that 52% of the persons both fatally and seriously injured had less than 1 minute's warning, and 65% had less than 5 minutes' warning. Furthermore, 31% of the initial warnings to seriously injured persons consisted of the person seeing or hearing the tornado, high winds, or flying debris. In some other tornado disasters, citizens have had earlier and more explicit warnings (1).

This study also showed that only 34% of the seriously injured persons knew the difference between a tornado warning and a tornado watch. Another study has shown that 36% of persons who sighted tornadoes did not know what they were (5).

Further emphasis needs to be placed on public health strategies for preventing or mitigating tornado-associated morbidity and mortality in high-risk areas. Community action programs should be oriented towards disseminating tornado warning/watches from the National Weather Service and tornado education for citizens. This tornado disaster, along with the majority of all tornadoes, occurred during the late afternoon when radio/television audiences are at their lowest (6). Therefore, utilization of positive alerts (sirens) are important.

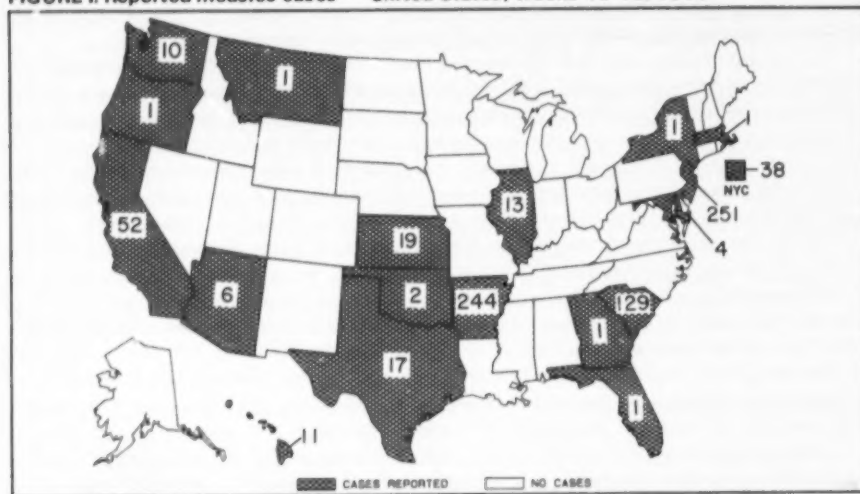
Citizens should be taught what the warning systems are in their communities and what should be done when the warning systems are activated. They should know and practice the following safety measures:

1. Persons in buildings should seek shelter indoors, on the lowest floor, preferably in a basement. Central rooms, including closets and stairwells, are safer than rooms along the outside of the house, and areas near windows should be avoided.
2. Drivers should not attempt to drive away from a tornado. Instead, they should seek shelter indoors immediately on hearing a tornado warning.
3. If drivers in open country cannot find indoor shelter, they should drive away from the tornado path at right angles. If there is not time to escape, persons outdoors should lie flat in the nearest ditch or ravine.
4. Even properly anchored mobile homes are unsafe when wind speeds exceed 50 mph. In tornado-prone states, mobile-home parks should have alternative tornado shelters.

References

1. Glass RI, Craven RB, Bregman DJ, et al. Injuries from the Wichita Falls tornado: implications for prevention. *Science* 1980;207:734-8.
2. CDC. Assessment of tornado-related deaths and injuries—Marion, Illinois. Unpublished data, 1982.
3. CDC. Tornado disaster—North Carolina, South Carolina, March 28, 1984. *MMWR* 1985;34:205-6, 211-2.
4. American Red Cross. Special statistical summary—deaths, injuries, and property loss by type of disaster 1970-1980. In: Gordon PD. Federal Emergency Management Agency, April 1982.
5. Wallace AFG. Tornado in Worcester. An exploratory study of individual and community behavior in an extreme situation. Washington, DC: National Academy of Science-National Research Council, 1956; publication 392.
6. National Oceanic and Atmospheric Administration. The widespread tornado outbreak of April 3-4, 1974. A report to the Administrator. Rockville, Maryland: U.S. Department of Commerce, 1974; National Disaster Survey Report 74-1.

FIGURE 1. Reported measles cases — United States, weeks 10-13, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21049 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

**BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26**

MMWR NEWARDOON DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

MMWR

237 Recommended Infection-Control Practices for Dentistry

247 Rocky Mountain Spotted Fever — United States, 1985

249 Update: Influenza Activity — United States

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Recommended Infection-Control Practices for Dentistry

Dental personnel may be exposed to a wide variety of microorganisms in the blood and saliva of patients they treat in the dental operator. These include *Mycobacterium tuberculosis*, hepatitis B virus, staphylococci, streptococci, cytomegalovirus, herpes simplex virus types I and II, human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), and a number of viruses that infect the upper respiratory tract. Infections may be transmitted in dental practice by blood or saliva through direct contact, droplets, or aerosols. Although not documented, indirect contact transmission of infection by contaminated instruments is possible. Patients and dental health-care workers (DHCWs) have the potential of transmitting infections to each other (1).

A common set of infection-control strategies should be effective for preventing hepatitis B, acquired immunodeficiency syndrome, and other infectious diseases caused by bloodborne viruses (2-4). The ability of hepatitis B virus to survive in the environment (5) and the high titers of virus in blood (6) make this virus a good model for infection-control practices to prevent transmission of a large number of other infectious agents by blood or saliva. Because all infected patients cannot be identified by history, physical examination, or readily available laboratory tests (3), the following recommendations should be used routinely in the care of all patients in dental practices.

MEDICAL HISTORY

Always obtain a thorough medical history. Include specific questions about medications, current illnesses, hepatitis, recurrent illnesses, unintentional weight loss, lymphadenopathy, oral soft tissue lesions, or other infections. Medical consultation may be indicated when a history of active infection or systemic disease is elicited.

USE OF PROTECTIVE ATTIRE AND BARRIER TECHNIQUES

1. For protection of personnel and patients, gloves must always be worn when touching blood, saliva, or mucous membranes (7-10). Gloves must be worn by DHCWs when touching blood-soiled items, body fluids, or secretions, as well as surfaces contaminated with them. Gloves must be worn when examining all oral lesions. All work must be completed on one patient, where possible, and the hands must be washed and regloved before performing procedures on another patient. Repeated use of a single pair of gloves is not recommended, since such use is likely to produce defects in the glove material, which will diminish its value as an effective barrier.

2. Surgical masks and protective eyewear or chin-length plastic face shields must be worn when splashing or spattering of blood or other body fluids is likely, as is common in dentistry (11,12).

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

4E 20.7009:

Infection Control - Continued

3. Reusable or disposable gowns, laboratory coats, or uniforms must be worn when clothing is likely to be soiled with blood or other body fluids. If reusable gowns are worn, they may be washed, using a normal laundry cycle. Gowns should be changed at least daily or when visibly soiled with blood (13).

4. Impervious-backed paper, aluminum foil, or clear plastic wrap may be used to cover surfaces (e.g., light handles or x-ray unit heads) that may be contaminated by blood or saliva and that are difficult or impossible to disinfect. The coverings should be removed (while DHCWs are gloved), discarded, and then replaced (after ungloving) with clean material between patients.

5. All procedures and manipulations of potentially infective materials should be performed carefully to minimize the formation of droplets, spatters, and aerosols, where possible. Use of rubber dams, where appropriate, high-speed evacuation, and proper patient positioning should facilitate this process.

HANDWASHING AND CARE OF HANDS

Hands must always be washed between patient treatment contacts (following removal of gloves), after touching inanimate objects likely to be contaminated by blood or saliva from other patients, and before leaving the operatory. The rationale for handwashing after gloves have been worn is that gloves become perforated, knowingly or unknowingly, during use and allow bacteria to enter beneath the glove material and multiply rapidly. For many routine dental procedures, such as examinations and nonsurgical techniques, handwashing with plain soap appears to be adequate, since soap and water will remove transient microorganisms acquired directly or indirectly from patient contact (13). For surgical procedures, an antimicrobial surgical handscrub should be used (14). Extraordinary care must be used to avoid hand injuries during procedures. However, when gloves are torn, cut, or punctured, they must be removed immediately, hands thoroughly washed, and regloving accomplished before completion of the dental procedure. DHCWs who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling dental patient-care equipment until the condition resolves (15).

USE AND CARE OF SHARP INSTRUMENTS AND NEEDLES

1. Sharp items (needles, scalpel blades, and other sharp instruments) should be considered as potentially infective and must be handled with extraordinary care to prevent unintentional injuries.

2. Disposable syringes and needles, scalpel blades, and other sharp items must be placed into puncture-resistant containers located as close as practical to the area in which they were used. To prevent needlestick injuries, disposable needles should not be recapped; purposefully bent or broken; removed from disposable syringes; or otherwise manipulated by hand after use.

3. Recapping of a needle increases the risk of unintentional needlestick injury. There is no evidence to suggest that reusable aspirating-type syringes used in dentistry should be handled differently from other syringes. Needles of these devices should not be recapped, bent, or broken before disposal.

4. Because certain dental procedures on an individual patient may require multiple injections of anesthetic or other medications from a single syringe, it would be more prudent to place the unsheathed needle into a "sterile field" between injections rather than to recap the needle between injections. A new (sterile) syringe and a fresh solution should be used for each patient.

*Infection Control — Continued***INDICATIONS FOR HIGH-LEVEL DISINFECTION OR STERILIZATION OF INSTRUMENTS**

Surgical and other instruments that normally penetrate soft tissue and/or bone (e.g., forceps, scalpels, bone chisels, scalers, and surgical burs) should be sterilized after each use. Instruments that are not intended to penetrate oral soft tissues or bone (e.g., amalgam condensers, plastic instruments, and burs) but that may come into contact with oral tissues should also be sterilized after each use, if possible; however, if sterilization is not feasible, the latter instruments should receive high-level disinfection (3, 13, 16).

METHODS FOR HIGH-LEVEL DISINFECTION OR STERILIZATION

Before high-level disinfection or sterilization, instruments should be cleaned to remove debris. Cleaning may be accomplished by a thorough scrubbing with soap and water or a detergent, or by using a mechanical device (e.g., an ultrasonic cleaner). Persons involved in cleaning and decontaminating instruments should wear heavy-duty rubber gloves to prevent hand injuries. Metal and heat-stable dental instruments should be routinely sterilized between use by steam under pressure (autoclaving), dry heat, or chemical vapor. The adequacy of sterilization cycles should be verified by the periodic use of spore-testing devices (e.g., weekly for most dental practices) (13). Heat- and steam-sensitive chemical indicators may be used on the outside of each pack to assure it has been exposed to a sterilizing cycle. Heat-sensitive instruments may require up to 10 hours' exposure in a liquid chemical agent registered by the U.S. Environmental Protection Agency (EPA) as a disinfectant/sterilant; this should be followed by rinsing with sterile water. High-level disinfection may be accomplished by immersion in either boiling water for at least 10 minutes or an EPA-registered disinfectant/sterilant chemical for the exposure time recommended by the chemical's manufacturer.

DECONTAMINATION OF ENVIRONMENTAL SURFACES

At the completion of work activities, countertops and surfaces that may have become contaminated with blood or saliva should be wiped with absorbent toweling to remove extraneous organic material, then disinfected with a suitable chemical germicide. A solution of sodium hypochlorite (household bleach) prepared fresh daily is an inexpensive and very effective germicide. Concentrations ranging from 5,000 ppm (a 1:10 dilution of household bleach) to 500 ppm (a 1:100 dilution) sodium hypochlorite are effective, depending on the amount of organic material (e.g., blood, mucus, etc.) present on the surface to be cleaned and disinfected. Caution should be exercised, since sodium hypochlorite is corrosive to metals, especially aluminum.

DECONTAMINATION OF LABORATORY SUPPLIES AND MATERIALS

Blood and saliva should be thoroughly and carefully cleaned from laboratory supplies and materials that have been used in the mouth (e.g., impression materials, bite registration), especially before polishing and grinding intra-oral devices. Materials, impressions, and intra-oral appliances should be cleaned and disinfected before being handled, adjusted, or sent to a dental laboratory (17). These items should also be cleaned and disinfected when returned from the dental laboratory and before placement in the patient's mouth. *Because of the ever-increasing variety of dental materials used intra-orally, DHCWs are advised to consult with manufacturers as to the stability of specific materials relative to disinfection procedures.* A chemical germicide that is registered with the EPA as a "hospital disinfectant" and that has a label claim for mycobactericidal (e.g., tuberculocidal) activity is preferred, because mycobacteria represent one of the most resistant groups of microorganisms; therefore, germicides that are effective against mycobacteria are also effective against other bacterial and viral pathogens (15). Communication between a dental office and a dental laboratory with regard to handling and decontamination of supplies and materials is of the utmost importance.

*Infection Control — Continued***USE AND CARE OF ULTRASONIC SCALERS, HANDPIECES, AND DENTAL UNITS**

1. Routine sterilization of handpieces between patients is desirable; however, not all handpieces can be sterilized. The present physical configurations of most handpieces do not readily lend them to high-level disinfection of both external and internal surfaces (see 2 below); therefore, when using handpieces that cannot be sterilized, the following cleaning and disinfection procedures should be completed between each patient: After use, the handpiece should be flushed (see 2 below), then thoroughly scrubbed with a detergent and water to remove adherent material. It should then be thoroughly wiped with absorbent material saturated with a chemical germicide that is registered with the EPA as a "hospital disinfectant" and is mycobactericidal at use-dilution (15). The disinfecting solution should remain in contact with the handpiece for a time specified by the disinfectant's manufacturer. Ultrasonic scalers and air/water syringes should be treated in a similar manner between patients. Following disinfection, any chemical residue should be removed by rinsing with sterile water.

2. Because water retraction valves within the dental units may aspirate infective materials back into the handpiece and water line, check valves should be installed to reduce the risk of transfer of infective material (18). While the magnitude of this risk is not known, it is prudent for water-cooled handpieces to be run and to discharge water into a sink or container for 20-30 seconds after completing care on each patient. This is intended to physically flush out patient material that may have been aspirated into the handpiece or water line. Additionally, there is some evidence that overnight bacterial accumulation can be significantly reduced by allowing water-cooled handpieces to run and to discharge water into a sink or container for several minutes at the beginning of the clinic day (19). Sterile saline or sterile water should be used as a coolant/irrigator when performing surgical procedures involving the cutting of soft tissue or bone.

HANDLING OF BIOPSY SPECIMENS

In general, each specimen should be put in a sturdy container with a secure lid to prevent leaking during transport. Care should be taken when collecting specimens to avoid contamination of the outside of the container. If the outside of the container is visibly contaminated, it should be cleaned and disinfected, or placed in an impervious bag (20).

DISPOSAL OF WASTE MATERIALS

All sharp items (especially needles), tissues, or blood should be considered potentially infective and should be handled and disposed of with special precautions. Disposable needles, scalpels, or other sharp items should be placed intact into puncture-resistant containers before disposal. Blood, suctioned fluids, or other liquid waste may be carefully poured into a drain connected to a sanitary sewer system. Other solid waste contaminated with blood or other body fluids should be placed in sealed, sturdy impervious bags to prevent leakage of the contained items. Such contained solid wastes can then be disposed of according to requirements established by local or state environmental regulatory agencies and published recommendations (13,20).

Developed by Dental Disease Prevention Activity, Center for Prevention Svcs, Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: All DHCWs must be made aware of sources and methods of transmission of infectious diseases. The above recommendations for infection control in dental practices incorporate procedures that should be effective in preventing the transmission of infectious agents from dental patients to DHCWs and vice versa. Assessment of quantifiable risks to dental personnel and patients for specific diseases requires further research. There is no current documentation of patient-to-patient blood- or saliva-borne disease transmission from

Infection Control — Continued

procedures performed in dental practice. While few in number, reported outbreaks of dentist-to-patient transmission of hepatitis B have resulted in serious and even fatal consequences (9). Herpes simplex virus has been transmitted to over 20 patients from the fingers of a DHCW (10). Serologic markers for hepatitis B in dentists have increased dramatically in the United States over the past several years, which suggests current infection-control practices have been insufficient to prevent the transmission of this infectious agent in the dental operator. While vaccination for hepatitis B is strongly recommended for dental personnel (21), vaccination alone is not cause for relaxation of strict adherence to accepted methods of asepsis, disinfection, and sterilization.

Various infection-control guidelines exist for hospitals and other clinical settings. Dental facilities located in hospitals and other institutional settings have generally utilized existing guidelines for institutional practice. These recommendations are offered as guidance to DHCWs in noninstitutional settings for enhancing infection-control practices in dentistry; they may be useful in institutional settings also.

References

1. Ahtone J, Goodman RA. Hepatitis B and dental personnel: transmission to patients and prevention issues. *J Am Dent Assoc* 1983;106:219-22.
2. Crawford JJ. State-of-the-art: practical infection control in dentistry. *J Am Dent Assoc* 1985;110:629-33.
3. Cottone JA, Mitchell EW, Baker CH, et al. Proceedings of the National Symposium on Hepatitis B and the Dental Profession. *J Am Dent Assoc* 1985;110:614-49.
4. CDC. Acquired immunodeficiency syndrome (AIDS): precautions for health-care workers and allied professionals. *MMWR* 1983;32:450-1.
5. Bond WW, Favero MS, Petersen NJ, Gravelle CR, Ebert JW, Maynard JE. Survival of hepatitis B virus after drying and storage for one week [Letter]. *Lancet* 1981;1:550-1.
6. Shikata T, Karasawa T, Abe K, et al. Hepatitis B e antigen and infectivity of hepatitis B virus. *J Infect Dis* 1977;136:571-6.
7. Hadler SC, Sorley DL, Acree KH, et al. An outbreak of hepatitis B in a dental practice. *Ann Intern Med* 1981;95:133-8.
8. Occupational Safety and Health Administration. Risk of hepatitis B infection for workers in the health care delivery system and suggested methods for risk reduction. U.S. Department of Labor 1983; (CPL 2-2 36).
9. CDC. Hepatitis B among dental patients—Indiana. *MMWR* 1985;34:73-5.
10. Manzella JP, McConville JH, Valenti W, Menegus MA, Swierkosz EM, Arens M. An outbreak of herpes simplex virus type 1 gingivostomatitis in a dental hygiene practice. *JAMA* 1984;252:2019-22.
11. Petersen NJ, Bond WW, Favero MS. Air sampling for hepatitis B surface antigen in a dental operator. *J Am Dent Assoc* 1979;99:465-7.
12. Bond WW, Petersen NJ, Favero MS, Ebert JW, Maynard JE. Transmission of type B viral hepatitis B via eye inoculation of a chimpanzee. *J Clin Microbiol* 1982;15:533-4.
13. Garner JS, Favero MS. Guideline for handwashing and hospital environmental control, 1985. Atlanta, Georgia: Centers for Disease Control, 1985; publication no. 99-1117.
14. Garner JS. Guideline for prevention of surgical wound infections, 1985. Atlanta, Georgia: Centers for Disease Control, 1985; publication no. 99-2381.
15. CDC. Recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. *MMWR* 1985;34:682-6, 691-5.
16. Favero MS. Sterilization, disinfection, and antisepsis in the hospital. In: Lennette EH, Balows A, Hauslen WJ, Shadomy HJ. *Manual of clinical microbiology*. Washington, D.C.: American Society of Microbiology, 1985:129-37.
17. Council on Dental Therapeutics and Council on Prosthetic Services and Dental Laboratory Relations, American Dental Association. Guidelines for infection control in the dental office and the commercial laboratory. *J Am Dent Assoc* 1985;110:969-72.

Infection Control - Continued

18. Bagga BSR, Murphy RA, Anderson AW, Punwani I. Contamination of dental unit cooling water with oral microorganisms and its prevention. *J Am Dent Assoc* 1984;109:712-6.
19. Scheid RC, Kim CK, Bright JS, Whitely MS, Rosen S. Reduction of microbes in handpieces by flushing before use. *J Am Dent Assoc* 1982;105:658-60.
20. Garner JS, Simmons BP. CDC guideline for isolation precautions in hospitals. Atlanta, Georgia: Centers for Disease Control, 1983; HHS publication no. (CDC) 83-8314.
21. ACIP. Inactivated hepatitis B virus vaccine. *MMWR* 1982;31:317-22, 327-8.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	15th Week Ending			Cumulative, 15th Week Ending		
	Apr 12, 1986	Apr 13, 1985	Median 1981-1985	Apr 12, 1986	Apr 13, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	380	199	N	3,580	1,878	N
Asplenic meningitis	82	71	58	1,207	1,039	1,144
Encephalitis: Primary (arthropod-borne & unsp.)	14	21	19	235	271	256
Post-infectious	2	3	1	25	38	25
Gonorrhea: Civilian	15,880	15,194	15,194	224,979	223,900	256,543
Military	221	276	355	4,457	5,335	7,059
Hepatitis: Type A	405	407	416	6,437	6,114	6,575
Type B	498	536	434	7,042	7,139	6,532
Non A, Non B	54	88	N	932	1,195	N
Unspecified	95	123	127	1,429	1,482	2,093
Legionellosis	7	8	N	157	173	N
Leprosy	12	6	6	78	114	58
Measles: Total*	167	104	58	201	192	198
Indigenous	185	98	N	1,607	721	721
Imported	2	8	N	1,555	597	N
Meningococcal infections: Total	66	48	67	959	894	1,041
Civilian	66	48	67	957	893	1,040
Military	-	-	-	2	1	4
Mumps	137	62	101	970	1,194	1,254
Pertussis	23	35	35	545	436	436
Rubella (German measles)	11	11	34	145	115	344
Syphilis (Primary & Secondary): Civilian	420	433	540	6,821	7,051	8,771
Military	10	3	7	68	53	109
Toxic Shock syndrome	9	6	N	95	108	N
Tuberculosis	368	433	489	5,458	5,361	6,258
Tularemia	1	-	2	18	24	27
Typhoid fever	4	8	8	64	74	106
Typhus fever, tick-borne (RMSF)	2	5	5	18	19	22
Rabies, animal	110	107	158	1,400	1,302	1,579

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	13
Botulism: Foodborne	3	Plague	-
Infant (Calif. 1)	15	Polioomyelitis, Paralytic	-
Other	-	Psittacosis	16
Brucellosis (Iowa 1)	14	Rabies, human	-
Cholera	-	Tetanus	11
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murina)	5
Diphtheria	-		

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending April 12, 1986 and April 13, 1985 (15th Week)

Reporting Area	AIDS	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	3,580	62	235	25	224,979	223,900	405	498	54	95	7	78
NEW ENGLAND	155	2	9	1	5,239	7,080	18	31	2	2	-	1
Maine	9	-	-	-	278	288	1	2	-	-	-	-
N.H.	7	-	2	-	148	151	-	-	-	-	-	-
Vt.	2	-	2	1	83	63	1	-	-	-	-	-
Mass.	92	1	2	-	2,240	2,621	10	19	1	2	-	1
R.I.	9	-	-	-	487	524	1	2	-	-	-	-
Conn.	36	1	3	-	2,003	3,433	5	8	1	-	-	-
MID ATLANTIC	1,337	9	38	-	41,852	30,978	12	30	2	38	-	7
Upstate N.Y.	118	3	12	-	4,519	4,332	5	6	-	-	-	-
N.Y. City	908	1	10	-	24,599	14,072	3	7	-	32	-	7
N.J.	223	-	5	-	5,721	6,342	4	17	2	6	-	-
Pa.	88	1	11	-	7,013	6,230	-	-	-	-	-	-
E.N. CENTRAL	176	9	47	4	27,554	32,404	19	73	8	3	2	4
Ohio	30	4	15	2	7,715	8,200	7	28	1	-	1	-
Ind.	24	1	5	2	4,299	3,081	1	7	-	-	-	-
Ill.	71	1	6	-	4,074	9,243	7	16	1	-	-	3
Mich.	46	3	20	-	9,706	9,380	4	22	6	3	1	1
Wis.	5	-	1	-	1,760	2,520	-	-	-	-	-	-
W.N. CENTRAL	74	4	6	5	10,395	11,487	8	19	2	-	1	1
Minn.	33	1	4	-	1,561	1,701	1	2	1	-	-	1
Iowa	8	-	2	-	1,043	1,221	1	3	1	-	-	-
Mo.	20	2	-	-	5,159	5,298	1	10	-	-	1	-
N. Dak.	2	-	-	-	103	84	-	-	-	-	-	-
S. Dak.	1	-	-	-	209	208	1	1	-	-	-	-
Nebr.	3	-	-	-	696	1,136	-	1	-	-	-	-
Kans.	7	1	-	5	1,624	1,839	4	2	-	-	-	-
S. ATLANTIC	481	19	39	11	50,318	48,254	32	84	7	7	1	1
Del.	9	-	3	-	965	1,071	-	1	-	-	-	-
Md.	45	6	10	-	7,214	7,723	6	25	1	1	-	-
D.C.	69	-	-	-	4,480	4,036	3	1	1	-	-	-
Va.	51	2	14	-	5,068	5,170	-	4	-	2	-	1
W. Va.	2	-	6	-	718	659	1	2	-	-	-	-
N.C.	21	1	5	1	9,949	9,203	4	11	1	1	-	-
S.C.	14	-	-	-	5,328	6,083	-	11	1	-	-	-
Ge.	64	-	-	-	-	-	4	13	1	-	-	-
Fla.	206	10	1	10	16,596	14,309	14	16	2	3	1	-
E.S. CENTRAL	32	1	18	1	19,564	19,645	5	44	2	1	-	-
Ky.	10	1	8	-	2,318	2,198	1	9	1	-	-	-
Tenn.	13	-	1	1	7,490	7,676	2	28	1	1	-	-
Ala.	5	-	9	-	5,605	6,119	1	6	-	-	-	-
Miss.	4	-	-	-	4,151	3,654	1	1	-	-	-	-
W.S. CENTRAL	304	13	19	-	28,854	31,341	52	34	2	24	2	5
Ark.	9	-	-	-	2,666	2,993	-	-	-	-	-	-
La.	42	1	2	-	5,015	6,522	3	8	-	1	-	-
Okla.	16	-	4	-	3,334	3,199	6	5	-	1	1	-
Tex.	237	12	13	-	17,839	18,627	43	21	2	22	1	5
MOUNTAIN	82	1	11	1	7,580	7,281	25	20	5	4	-	7
Mont.	1	-	-	1	184	222	-	1	-	1	-	-
Idaho	1	-	-	-	232	244	1	1	-	-	-	-
Wyo.	2	-	2	-	172	199	-	-	-	1	-	-
Colo.	36	-	2	-	1,929	2,191	5	4	2	-	-	3
N. Mex.	6	-	1	-	780	846	3	1	1	1	-	-
Ariz.	21	-	4	-	2,356	2,143	8	10	2	1	-	2
Utah	6	1	1	-	308	297	5	1	-	-	-	-
Nev.	9	-	1	-	1,619	1,139	3	2	-	-	-	2
PACIFIC	939	28	48	2	33,623	35,432	234	163	24	16	1	52
Wash.	34	2	5	-	2,506	2,553	16	7	-	-	-	6
Oreg.	18	-	-	-	1,316	1,847	40	13	1	-	-	-
Calif.	869	25	41	2	28,501	29,591	176	138	23	15	1	40
Alaska	8	1	2	-	931	871	1	1	-	1	-	-
Hawaii	10	-	-	-	369	570	1	4	-	-	-	6
Guam	-	-	-	-	28	52	-	-	-	-	-	1
P.R.	32	-	2	-	651	1,108	4	5	1	1	-	-
V.I.	-	-	-	-	66	130	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	42	235	-	1	-	-	-	1
Amer Samoa	-	-	-	-	12	-	1	-	-	-	-	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 12, 1986 and April 13, 1985 (15th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningo- coccal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		Cum 1986	1986	Cum 1986	1986										
UNITED STATES	201	165	1,565	2	42	721	959	137	970	23	545	436	11	145	115
NEW ENGLAND	11	1	10	-	-	40	69	-	25	3	38	21	-	1	5
Maine	-	-	-	-	-	-	14	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	-	5	-	14	13	-	1	2
Vt.	1	-	-	-	-	-	9	-	-	-	1	2	-	-	-
Mass.	6	-	9	-	-	40	14	-	1	-	9	3	-	-	3
R.I.	1	1	1	-	-	-	10	-	4	-	1	1	-	-	-
Conn.	3	-	-	-	-	-	19	-	15	3	11	-	-	-	-
MID ATLANTIC	25	116	616	-	3	53	163	3	55	1	73	54	-	23	29
Upstate N.Y.	3	1	2	-	2	27	45	-	21	1	48	30	-	15	7
N.Y. City	8	16	91	-	1	20	36	-	5	-	3	7	-	5	7
N.J.	3	99	523	-	-	6	27	3	13	-	4	1	-	3	3
Pa.	11	-	-	-	-	-	55	-	16	-	18	16	-	-	12
E.N. CENTRAL	5	10	158	-	2	243	115	95	484	4	131	66	3	4	9
Ohio	1	-	-	-	-	12	54	4	53	1	62	13	-	-	-
Ind.	-	-	-	-	-	1	10	-	15	2	16	11	-	-	-
Ill.	2	10	89	-	-	139	27	87	276	-	15	12	3	3	3
Mich.	2	-	-	-	-	48	24	4	64	1	14	7	-	-	5
Wis.	-	-	69	-	2	43	-	-	76	-	24	23	-	1	1
W.N. CENTRAL	5	8	78	1	1	4	52	3	45	2	32	38	1	5	7
Minn.	2	-	-	-	-	1	12	-	-	-	15	11	-	-	-
Iowa	1	-	-	-	-	-	6	1	7	1	5	2	-	-	-
Mo.	2	-	-	1	1	2	18	2	9	1	4	8	-	1	-
N. Dak.	-	-	-	-	-	-	-	-	2	-	2	6	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr.	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Kans.	-	8	78	-	-	1	10	-	25	-	6	10	1	4	7
S. ATLANTIC	25	21	240	-	4	101	206	7	71	3	102	106	-	6	7
Del.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Md.	3	3	9	-	2	4	28	-	4	-	21	34	-	-	1
D.C.	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-
Va.	6	-	-	-	-	12	37	-	9	-	9	2	-	-	-
W. Va.	-	2	2	-	-	2	3	2	25	2	4	7	-	-	-
N.C.	3	-	-	-	-	-	32	3	7	-	15	7	-	-	-
S.C.	2	16	218	-	-	-	24	2	5	-	2	-	-	-	2
Ga.	3	-	-	-	1	8	30	-	1	-	43	45	-	-	-
Fla.	8	-	11	-	1	74	49	-	12	-	8	18	-	6	4
E.S. CENTRAL	4	1	1	-	-	-	50	6	13	-	15	4	-	1	1
Ky.	2	-	-	-	-	-	9	-	2	-	1	1	-	1	1
Tenn.	-	1	1	-	-	-	23	6	9	-	5	1	-	-	-
Ala.	2	-	-	-	-	-	13	-	1	-	9	2	-	-	-
Miss.	-	-	-	-	-	-	5	-	1	-	-	-	-	-	-
W.S. CENTRAL	17	2	267	-	12	23	71	2	70	-	24	40	3	30	13
Ark.	-	-	265	-	-	-	8	-	6	-	1	8	-	-	1
La.	4	-	-	-	-	1	8	-	-	-	3	1	-	-	-
Okla.	2	-	2	-	-	-	12	N	N	-	20	31	-	-	-
Tex.	11	2	20	-	12	22	43	2	64	-	-	-	3	30	12
MOUNTAIN	5	-	48	-	6	175	36	7	101	2	70	21	-	-	3
Mont.	-	-	-	-	1	120	4	-	2	-	-	3	-	-	-
Idaho	1	-	-	-	-	2	1	-	2	-	15	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo.	1	-	-	-	3	3	7	1	5	-	16	8	-	-	-
N. Mex.	-	-	15	-	2	1	4	N	N	-	8	3	-	-	1
Ariz.	2	-	33	-	-	49	12	6	88	2	23	3	-	-	1
Utah	-	-	-	-	-	-	-	-	1	-	8	4	-	-	-
Nev.	1	-	-	-	-	-	3	-	3	-	-	-	-	-	-
PACIFIC	104	6	127	1	14	82	197	14	106	8	60	86	4	75	41
Wash.	9	-	23	-	7	1	28	-	4	2	25	12	-	1	-
Oreg.	8	-	-	-	2	2	15	N	N	1	3	16	-	-	1
Calif.	87	3	85	1	5	72	148	13	94	5	29	53	3	73	32
Alaska	-	-	-	-	-	-	5	-	2	-	1	2	-	-	-
Hawaii	-	3	19	-	-	7	1	1	6	-	2	3	1	1	8
Guam	1	1	3	-	-	10	-	1	2	-	-	-	-	2	1
P.R.	1	-	-	-	-	40	2	1	15	1	3	1	-	-	4
V.I.	-	-	-	-	-	9	-	-	6	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable ¹ International ² Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 12, 1986 and April 13, 1985 (15th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	6,821	7,051	9	5,458	5,361	13	64	18	1,400
NEW ENGLAND	140	158	2	167	191	-	3	1	1
Maine	10	5	2	18	16	-	-	-	-
N.H.	6	3	-	3	6	-	-	-	-
Vt.	6	-	-	7	3	-	-	-	-
Mass.	67	87	-	82	115	-	2	1	1
R.I.	8	5	-	11	16	-	-	-	-
Conn.	43	58	-	46	35	-	1	-	-
MID ATLANTIC	1,003	949	-	1,087	1,046	-	7	1	118
Upstate N.Y.	51	65	-	174	157	-	1	1	20
N.Y. City	570	606	-	526	561	-	4	-	-
N.J.	196	206	-	197	92	-	2	-	-
Pa.	186	72	-	190	236	-	-	-	98
E.N. CENTRAL	175	339	2	700	674	-	4	-	27
Ohio	34	34	2	103	128	-	-	-	2
Ind.	40	29	-	86	83	-	-	-	7
Ill.	39	178	-	304	300	-	-	-	8
Mich.	43	82	-	167	128	-	3	-	3
Wis.	19	16	-	40	35	-	1	-	7
W.N. CENTRAL	67	75	-	156	141	6	3	1	184
Minn.	8	19	-	36	23	-	1	-	20
Iowa	5	11	-	11	22	1	-	-	40
Mo.	38	29	-	85	66	5	2	-	16
N.Dak.	2	-	-	3	2	-	-	-	46
S.Dak.	1	4	-	5	7	-	-	-	41
Nebr.	8	3	-	4	7	-	-	-	5
Kans.	5	9	-	12	14	-	-	1	16
S. ATLANTIC	1,767	1,790	-	1,073	1,085	4	6	6	372
Del.	10	14	-	13	9	-	-	-	-
Md.	142	137	-	77	86	1	-	-	231
D.C.	105	96	-	42	52	-	-	-	-
Va.	139	97	-	100	79	1	2	1	60
W.Va.	3	2	-	40	25	-	-	-	8
N.C.	155	211	-	137	131	1	2	2	-
S.C.	201	230	-	128	140	-	-	2	10
Ge.	-	-	-	132	159	1	-	1	42
Fla.	1,012	1,003	-	404	404	-	2	-	21
E.S. CENTRAL	486	635	2	495	469	3	-	5	74
Ky.	25	25	2	135	99	2	-	1	24
Tenn.	202	173	-	136	138	1	-	-	30
Ala.	163	220	-	162	163	-	-	1	20
Miss.	96	217	-	62	69	-	-	3	-
W.S. CENTRAL	1,586	1,729	1	665	556	4	2	4	197
Ark.	77	82	-	32	40	3	-	-	42
La.	247	306	-	125	82	-	-	-	4
Okla.	47	48	1	56	69	1	1	2	18
Tex.	1,215	1,293	-	392	365	-	1	2	133
MOUNTAIN	190	238	-	108	123	-	2	-	231
Mont.	3	1	-	5	19	-	-	-	88
Idaho	1	2	-	5	3	-	-	-	-
Wyo.	-	5	-	-	1	-	-	-	102
Colo.	61	55	-	1	16	-	-	-	-
N.Mex.	22	27	-	25	22	-	-	-	2
Ariz.	80	133	-	55	53	-	1	-	39
Utah	3	3	-	4	3	-	1	-	-
Nev.	20	12	-	13	6	-	-	-	-
PACIFIC	1,407	1,138	2	1,007	1,076	1	57	-	196
Wash.	27	43	-	56	53	-	2	-	-
Oreg.	28	29	-	36	35	-	-	-	-
Calif.	1,337	1,045	2	844	892	-	33	-	190
Alaska	-	-	-	17	44	1	-	-	6
Hawaii	15	21	-	54	52	-	2	-	-
Guam	1	2	-	-	12	-	-	-	-
P.R.	245	262	-	76	84	-	2	-	14
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	45	15	-	7	23	-	6	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
April 12, 1986 (15th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	675	486	116	28	19	27	66	S ATLANTIC	1,359	867	308	101	44	37	75
Boston, Mass.	192	125	34	14	5	14	22	Atlanta, Ga.	157	100	35	18	2	2	5
Bridgeport, Conn.	38	27	7	1	2	1	4	Baltimore, Md.	237	153	53	19	7	5	9
Cambridge, Mass.	29	24	3	2	-	-	5	Charlotte, N.C.	82	50	21	6	2	3	6
Fall River, Mass.	20	16	4	-	-	-	-	Jacksonville, Fla.	120	73	32	7	3	5	7
Hartford, Conn.	61	44	10	3	2	2	6	Miami, Fla.	130	77	35	10	7	1	3
Lowell, Mass.	27	21	5	-	1	-	2	Norfolk, Va.	30	15	9	1	3	2	3
Lynn, Mass.	15	12	3	-	1	-	2	Richmond, Va.	92	57	21	5	2	6	10
New Bedford, Mass.	28	18	9	1	1	2	3	Savannah, Ga.	48	29	14	5	4	1	10
New Haven, Conn.	50	39	7	1	1	2	3	St. Petersburg, Fla.	116	92	14	5	4	2	3
Providence, R.I.	55	39	9	2	-	5	1	Tampa, Fla.	77	57	11	4	2	3	5
Somerville, Mass.	7	6	1	-	-	-	8	Washington, D.C.	223	129	54	21	10	8	13
Springfield, Mass.	52	40	9	-	3	-	4	Wilmington, Del.	47	35	9	2	1	-	2
Waterbury, Conn.	37	25	7	2	1	2	7								
Worcester, Mass.	64	50	8	3	1	2	7	ES CENTRAL	860	521	200	67	37	35	58
								Birmingham, Ala.	112	66	29	9	6	2	6
MID ATLANTIC	2,864	1,926	580	234	69	54	145	Chattanooga, Tenn.	81	46	25	5	4	1	5
Albany, N.Y.	49	38	8	2	-	-	3	Knoxville, Tenn.	100	66	20	8	3	2	11
Allentown, Pa.	20	17	2	1	-	-	15	Louisville, Ky.	105	70	23	6	4	2	10
Buffalo, N.Y.	129	83	29	9	3	5	2	Memphis, Tenn.	218	137	45	16	6	4	3
Camden, N.J.	43	27	11	2	-	-	3	Mobile, Ala.	58	32	15	6	1	4	3
Elizabeth, N.J.	15	11	4	-	-	-	3	Montgomery, Ala.	62	36	12	5	0	1	2
Erie, Pa.	40	24	11	5	-	-	3	Nashville, Tenn.	124	68	31	12	5	8	11
Jersey City, N.J.	45	30	4	8	2	1	3								
N.Y. City, N.Y.	1,671	1,111	342	148	41	29	68	WS CENTRAL	1,484	881	355	136	49	63	69
Newark, N.J.	66	29	19	11	2	5	4	Austin, Tex.	78	42	17	10	1	8	10
Paterson, N.J.	23	15	6	1	-	-	1	Baton Rouge, La.	22	11	9	2	-	2	2
Philadelphia, Pa.	302	203	59	18	13	9	12	Corpus Christi, Tex.	27	14	4	6	2	1	1
Pittsburgh, Pa.	65	47	14	3	1	-	3	Dallas, Tex.	221	107	66	35	5	8	12
Reading, Pa.	29	19	8	6	2	-	8	El Paso, Tex.	48	24	13	5	3	3	-
Rochester, N.Y.	104	78	18	6	2	-	5	Fort Worth, Tex.	105	61	24	7	9	4	7
Schenectady, N.Y.	30	22	3	4	1	-	5	Houston, Tex.	416	268	87	33	10	18	12
Scranton, Pa.	31	27	4	-	-	-	1	Little Rock, Ark.	71	43	22	3	-	3	6
Syracuse, N.Y.	95	70	17	5	2	-	8	New Orleans, La.	131	77	29	14	4	7	-
Trenton, N.J.	48	32	8	7	1	-	3	San Antonio, Tex.	201	122	54	12	9	4	10
Utica, N.Y.	23	18	5	-	-	-	1	Shreveport, La.	52	35	10	2	-	5	1
Yonkers, N.Y.	36	25	8	2	1	-	3	Tulsa, Okla.	112	77	20	7	6	2	8
EN CENTRAL	2,383	1,575	523	157	53	75	112	MOUNTAIN	710	449	145	54	41	21	30
Akron, Ohio	73	53	13	4	2	1	7	Albuquerque, N.Mex.	81	54	12	6	8	1	7
Canton, Ohio	35	23	8	2	-	-	4	Colorado Springs, Colo.	48	26	16	5	-	1	3
Chicago, Ill.	570	368	125	42	12	23	18	Denver, Colo.	132	84	23	15	7	3	2
Cincinnati, Ohio	128	94	22	3	2	7	7	Las Vegas, Nev.	83	56	16	6	3	2	3
Cleveland, Ohio	154	99	30	14	5	6	6	Ogden, Utah	19	14	3	1	1	-	4
Columbus, Ohio	129	85	30	8	3	3	5	Phoenix, Ariz.	155	94	31	11	14	5	4
Dayton, Ohio	124	81	33	5	-	5	6	Pueblo, Colo.	22	18	3	-	-	1	2
Detroit, Mich.	282	154	79	37	7	5	8	Salt Lake City, Utah	49	23	11	4	7	4	1
Evansville, Ind.	49	36	10	1	1	-	3	Tucson, Ariz.	121	80	30	6	1	4	7
Fort Wayne, Ind.	69	48	13	6	2	-	3								
Gary, Ind.	12	7	4	1	-	-	5	PACIFIC	2,082	1,404	381	180	61	51	127
Grand Rapids, Mich.	57	38	13	3	2	1	5	Berkeley, Calif.	15	11	2	2	-	-	-
Indianapolis, Ind.	144	88	41	6	4	5	3	Fresno, Calif.	85	50	12	7	2	4	7
Madison, Wis.	38	24	9	2	2	1	4	Glendale, Calif.	31	25	3	1	1	1	3
Milwaukee, Wis.	135	97	20	8	4	6	5	Honolulu, Hawaii	80	57	16	3	1	3	5
Peoria, Ill.	38	29	6	1	1	1	3	Long Beach, Calif.	92	60	23	5	3	1	8
Rockford, Ill.	44	29	9	3	-	3	6	Los Angeles, Calif.	686	445	117	69	21	8	23
South Bend, Ind.	57	47	7	2	-	1	6	Oakland, Calif.	78	49	14	6	1	8	2
Toledo, Ohio	172	119	39	6	3	5	15	Pasadena, Calif.	37	30	4	2	1	5	8
Youngstown, Ohio	73	56	12	3	1	1	3	Portland, Oreg.	133	90	22	10	6	5	8
								Sacramento, Calif.	138	85	30	16	6	10	24
W.N. CENTRAL	780	550	139	43	29	19	45	San Diego, Calif.	162	105	26	15	6	10	24
Des Moines, Iowa	69	47	16	2	2	2	4	San Francisco, Calif.	130	77	32	20	-	1	3
Duluth, Minn.	29	27	1	1	-	-	4	San Jose, Calif.	184	120	38	14	10	2	14
Kansas City, Kans.	22	14	5	2	1	-	1	Seattle, Wash.	153	120	22	7	2	2	5
Kansas City, Mo.	132	91	30	6	1	4	10	Spokane, Wash.	56	39	16	-	1	1	7
Lincoln, Neb.	46	32	6	-	5	3	3	Tacoma, Wash.	43	31	5	3	-	4	1
Minneapolis, Minn.	83	60	12	7	3	1	10								
Omaha, Neb.	93	60	18	7	6	2	10	TOTAL	13,197	8,659	2,747	1,000	401	382	727
St. Louis, Mo.	161	107	28	11	8	7	5								
St. Paul, Minn.	77	58	12	5	2	-	7								
Wichita, Kans.	68	54	11	2	1	-	7								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages

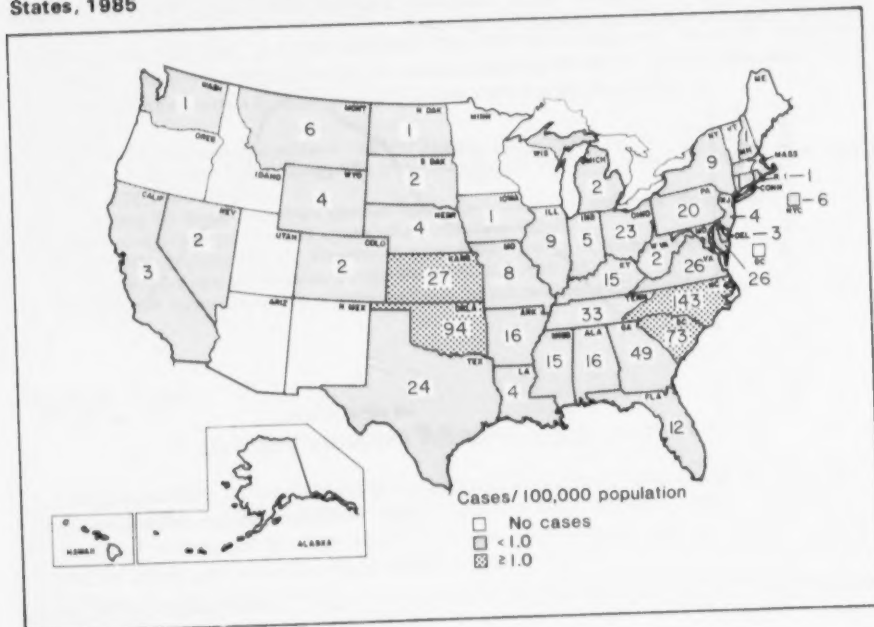
§ Data not available. Figures are estimates based on average of past 4 weeks.

Current Trends**Rocky Mountain Spotted Fever — United States, 1985**

For 1985, a provisional total of 700 cases of Rocky Mountain spotted fever (RMSF) was reported to *MMWR*, an incidence rate of 0.29 cases per 100,000 population. Oklahoma had the highest incidence rate (94 cases, 2.8/100,000). North Carolina reported the largest number of cases (143 cases, 2.3/100,000). Two other states had incidence rates of 1/100,000 or higher—South Carolina (73 cases, 2.2/100,000) and Kansas (27 cases, 1.1/100,000) (Figure 1).

States submitted case report forms for 587 (84%) of the 700 reported cases. Of these 587 cases, 335 (57%) were laboratory-confirmed by either serologic testing, isolation of spotted fever group rickettsia, or fluorescent antibody staining of biopsy or autopsy material. A case is considered serologically confirmed if testing reveals an indirect fluorescent antibody titer (IFA) of 1:64 or greater, a complement fixation (CF) titer of 1:16 or greater, or a fourfold rise in titer by the CF, IFA, microagglutination (MA), latex agglutination (LA), or indirect hemagglutination (IHA) assay. An additional 34 (6%) cases were classified as probable cases, as indicated by a fourfold rise in titer or a single titer 1:320 or higher in the Weil-Felix assay or an LA, MA, or IHA single titer of 1:128 or higher. The other 218 (37%) cases were supported by clinical diagnoses alone.

FIGURE 1. Reported Rocky Mountain spotted fever cases and rates, by state — United States, 1985



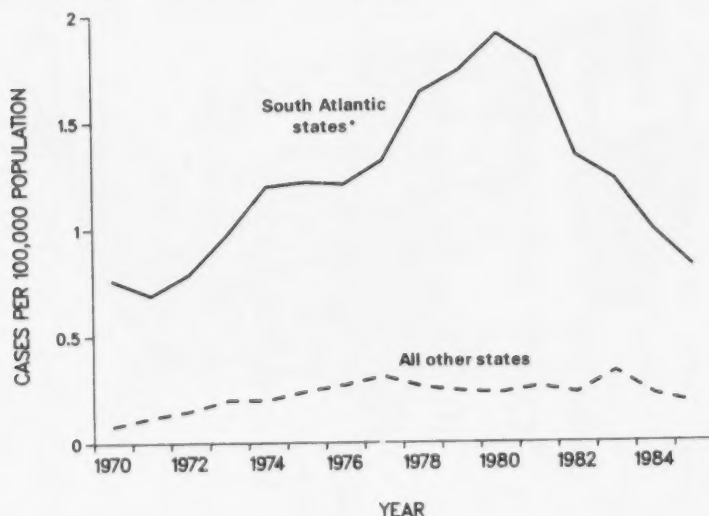
RMSF — Continued

The 1985 surveillance revealed case characteristics similar to those previously reported. Ninety-five percent of patients reported onset of illness between April 1 and September 30, with 66% becoming ill in May, June, or July. Sixty percent of patients were male; 41% were under 20 years of age; and 90% were white. Symptoms reported included fever (94%), headache (88%), and myalgia (85%). A rash was reported by 83% and, of these, 73% reported that the rash was noted on the palms or soles. Seventy-three percent of the patients were hospitalized. The overall case-fatality rate was 4%. The case-fatality rate was higher for blacks (16%) than whites (3%) and was higher for individuals 40 years of age or older (9%) than for individuals under age 40 years (2%). Of the patients for whom exposure histories were available, 68% reported a tick bite or attachment, and an additional 24% reported being in a tick-infested area within 14 days (but no tick bite or attachment). Eight percent did not have a known exposure of either type.

Reported by Viral and Rickettsial Zoonoses Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The number of reported RMSF cases has waned considerably from the peak of 1,192 cases (0.51/100,000) reported in 1981 (1). The increase in the early 1970s appeared simultaneously in many regions of the United States and was stimulated by the 1970 initiation of a CDC surveillance program (2). The rate of RMSF reported in the South Atlantic states, which increased steadily from 0.76/100,000 in 1970 to a peak of 1.91/100,000 in 1980, has now fallen to 0.82/100,000 (Figure 2). Excluding the South Atlantic states, the rate of RMSF in the other states rose through 1977 and remained fairly constant between 1978 and 1985 (Figure 2). For the third consecutive year, Oklahoma reported the highest incidence of any state.

FIGURE 2. Rates of reported Rocky Mountain spotted fever cases, by year — South Atlantic states and all other states, 1970-1985



*Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, and the District of Columbia

RMSF — Continued

Although the number of reported deaths has decreased with the decrease in the number of reported cases, the case-fatality rate has changed little over the last 5 years. Morbidity and mortality may be decreased by knowledge of the epidemiology and early clinical signs of RMSF (3). RMSF should be suspected, and treatment with chloramphenicol or tetracycline strongly considered, among residents of, or visitors to, RMSF-endemic areas who report fever, headache, and myalgias, even without a rash, particularly during April through October. Symptoms and signs referable to the pulmonary system (such as cough or rales), the gastrointestinal system (such as nausea, vomiting, or abdominal pain), or the central nervous system (such as stupor, meningismus, or ataxia), are seen with RMSF and should not delay diagnosis or treatment (3). Special attention is warranted for individuals 40 years of age and older, who have a greater likelihood of a fatal outcome, and dark-skinned individuals, in whom a rash may be more difficult to diagnose.

In a recent study of RMSF in a hyperendemic area, a tick bite or exposure was reported for 85% of serologically confirmed cases, compared with 54% of matched controls (4). Rash was reported in 84% of the serologically confirmed cases. However, in 16% of patients, a rash was never noted, and in an additional 10%, a rash did not develop until later than the fifth day after onset of the illness.

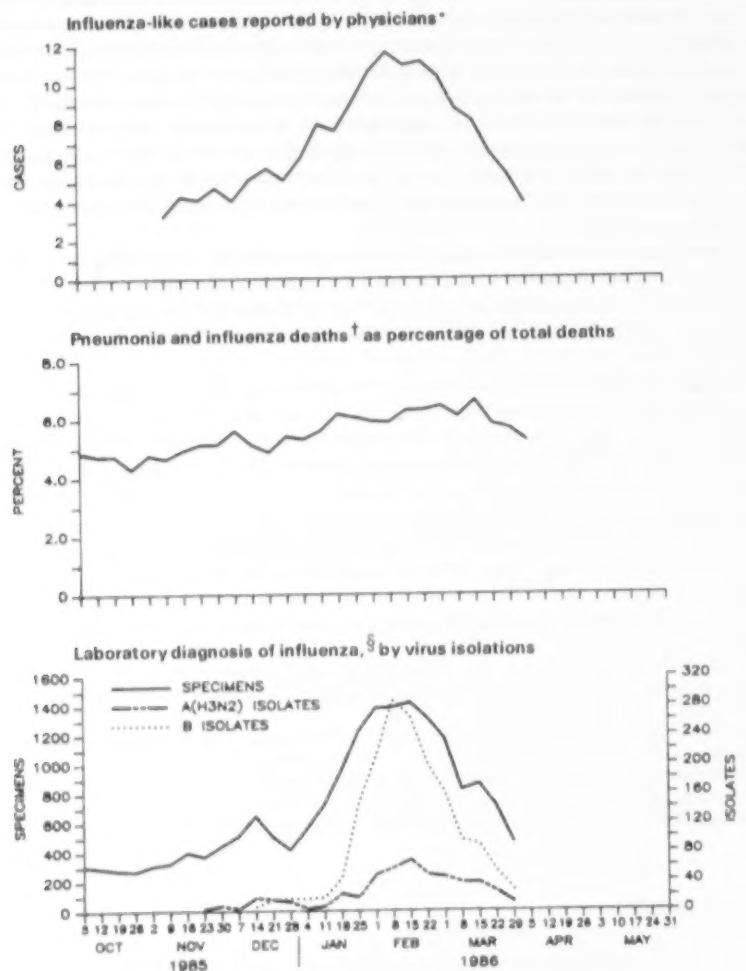
Prevention of RMSF is best accomplished by careful inspection of persons who may have been exposed to ticks. Ticks should be removed by grasping them with tweezers as closely as possible to the point of attachment and pulling slowly and steadily (5). If a portion of the mouth part remains, it should be treated like any other small foreign body; it may cause irritation, but it will not increase the risk of contracting RMSF. The fingers, protected with tissue paper, may be used to remove a tick from a person if tweezers are not available, but should always be washed after the removal of a tick. The fingers should not be used to detick dogs. Persons living and working in tick-infested areas should be educated about the prevention, symptoms, and signs of the disease. No vaccine against RMSF is currently available. RMSF cases should be reported to appropriate local and state health departments.

References

1. CDC. Rocky Mountain spotted fever—United States, 1981. *MMWR* 1982;31:261-3.
2. Hattwick MAW, Peters AH, Gregg MB, et al. Surveillance of Rocky Mountain spotted fever. *JAMA* 1973; 225:1338-43.
3. Woodward TE. Rocky Mountain spotted fever: epidemiological and early clinical signs are keys to treatment and reduced mortality. *J Infect Dis* 1984;150:465-8.
4. Wilfert CM, MacCormack JN, Kleeman K, et al. Epidemiology of Rocky Mountain spotted fever as determined by active surveillance. *J Infect Dis* 1984;150:469-79.
5. Needham GR. Evaluation of five popular methods for tick removal. *Pediatrics* 1985;75:997-1002.

*Current Trends***Update: Influenza Activity — United States**

Influenza activity in the United States continues to decline (Figure 3). Almost all influenza virus isolates this season have been type B (76.1%) or type A(H3N2) (23.8%). However, from February 17 to February 24, type A(H1N1) viruses were isolated from three persons, aged 3, 4, and 31 years, with influenza-like illness who lived in the same neighborhood in west Houston, Texas. Despite continued surveillance, no further type A(H1N1) isolates have been identified in Houston. In Hawaii, one type A(H1N1) virus isolate was reported this season.

*Influenza — Continued***FIGURE 3. Indicators of influenza activity, by week — United States, 1985-1986**

*Reported to CDC by approximately 125 physician members of the American Academy of Family Physicians. A case was defined as a patient with fever 37.8 C (100 F) or greater and at least cough or sore throat.

†Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths where pneumonia is listed as a primary or underlying cause or where influenza is listed on the death certificate.

§Reported to CDC by WHO Collaborating Laboratories (including military sources).

Influenza — Continued

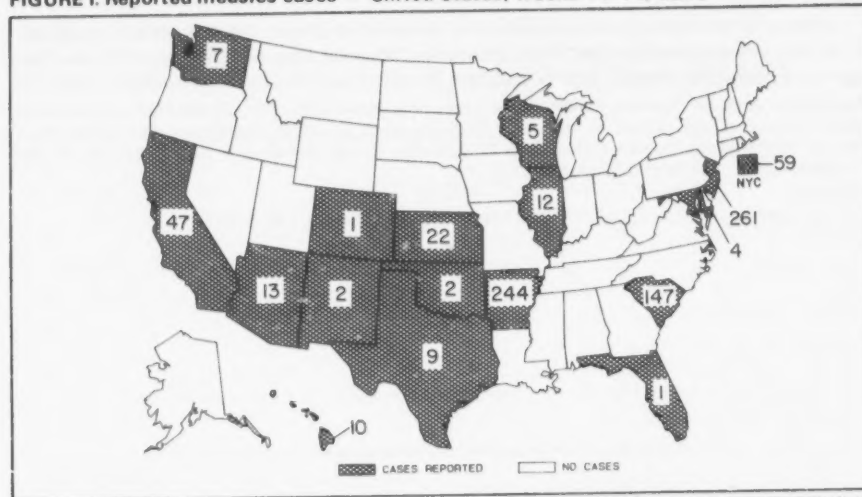
In Birmingham, Alabama, recent laboratory results have shown that an outbreak of influenza among college students reportedly caused by influenza type A(H3N2) virus (1) was primarily associated with type B influenza virus.

Reported by Influenza Research Center, Baylor College of Medicine, Houston, Texas; State and Territorial Epidemiologists; State Laboratory Directors; Statistical Svcs Br, Div of Surveillance and Epidemiologic Studies, Epidemiology Program Office, WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Reference

1. CDC. Update: influenza activity—United States. MMWR 1986;35:135-6, 141.

FIGURE 1. Reported measles cases — United States, weeks 11-14, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21050 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101
Not
630

35/16

CENTERS FOR DISEASE CONTROL

April 25, 1986 / Vol. 35 / No. 16

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 253 Behavioral Risk-Factor Surveillance — Selected States, 1984
- 254 Aldicarb Food Poisoning from Contaminated Melons — California
- 263 Ciguatera Fish Poisoning — Vermont
- 264 Restaurant-Associated Scombroid Fish Poisoning — Alabama, Tennessee
- 265 Cytotoxicity of Volcanic Ash: Assessing the Risk for Pneumoconiosis

Perspectives in Disease Prevention and Health Promotion

Behavioral Risk-Factor Surveillance — Selected States, 1984

During 1984, 15 states collected behavioral risk-factor surveillance (BRFS) data from their adult populations by monthly telephone interviews using random digit-dialing techniques. The interviews were conducted using standard questionnaires and procedures developed jointly by the state health departments and CDC. The data collected included seatbelt nonuse, hypertensive status, physical activity, overweight status, cigarette smoking, and alcohol misuse. The results presented here are based on 1 year of data collection and are weighted to take into account the age, race, and sex distribution of adults in each state, as well as the respondents' probability of selection (Table 1). These data represent the first year of routine surveillance of

TABLE 1. Behavioral risk-factor rates* in 15 states — United States, 1984

State	Over-weight†	Sedentary lifestyle§	Uncontrolled hypertension¶	Current smoker**	Binge drinking††	Heavier drinking§§	Drinking & driving¶¶	Seatbelt nonuse***
Arizona	20.4	39.5	1.7	27.7	20.8	12.0	6.3	61.1
California	18.6	42.2	1.9	25.6	20.4	10.5	4.2	51.2
Idaho	21.8	46.3	2.1	24.5	17.8	5.8	4.2	71.0
Illinois	23.2	53.8	1.5	33.6	22.8	10.2	6.9	68.2
Indiana	23.7	53.7	2.5	†††	16.6	8.1	4.7	73.3
Minnesota	20.7	49.4	0.8	26.5	25.3	7.7	6.9	71.0
Montana	19.9	50.0	1.7	28.9	27.0	6.9	8.2	70.8
North Carolina	23.4	50.1	2.8	†††	14.2	6.8	4.6	71.3
Ohio	25.7	52.5	3.0	28.7	22.5	8.7	7.4	68.0
Rhode Island	19.2	59.9	2.4	31.3	19.2	8.6	5.0	71.4
South Carolina	21.9	54.9	1.8	26.2	11.0	5.7	2.0	66.6
Tennessee	21.4	60.9	1.6	†††	8.6	4.8	3.3	71.8
Utah	17.4	42.7	2.4	16.1	10.5	3.2	3.9	66.8
West Virginia	25.7	60.7	3.2	32.8	11.6	5.7	2.9	75.9
Wisconsin	24.6	50.4	1.5	27.4	28.9	10.3	11.3	67.9

*Percentages.

†One hundred twenty percent or more of ideal weight (ideal weight defined as the midvalue of the medium-framed person on the 1959 Metropolitan Life Insurance Company height-weight tables).

§Person with less than 20 minutes of leisure time physical activity at least three times per week.

¶Person who reports having been told by a medical professional that he/she is hypertensive and still has high blood pressure.

**Current cigarette smoker.

††Person who drank five or more drinks on an occasion one or more times in the past month.

§§Person whose average total alcoholic beverage intake exceeds 60 drinks per month.

¶¶Person who responded once or more to the question: "during the past month, how many times have you driven when you've had perhaps too much to drink?"

***Person who states he/she sometimes, seldom, or never uses a seatbelt when riding in or driving a car.

†††Data not available.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Behavioral Risk-Factor Surveillance — Continued

behavioral risk factors in the states. The data allow state health departments to compare the prevalence of risk behaviors associated with the 10 leading causes of premature death among adults in their state with adults in other states. These data will be used to monitor trends and to monitor statewide programs to reduce the prevalence of these behaviors.

Reported by R Brooks, Office of Health Education, Arizona Dept of Health Svcs; F Capell, Health Education-Risk Reduction Program, California Dept of Health Svcs; JV Patterson, Health Education Section, Bureau of Preventative Medicine, Idaho Dept of Health and Welfare; D Patterson, Div of Education and Information, Illinois Dept of Public Health; L Weiland, Div of Health Education, Indiana State Board of Health; N Salem, Minnesota Center for Health Statistics; R Moon, Health Education and Promotion Program, Montana Dept of Health and Environmental Sciences; R Staton, Health Promotion Br, Div of Health Svcs, North Carolina Dept of Human Resources; E Capwell, Bureau of Preventive Medicine, Ohio Dept of Health; J Cataldo, Div of Health Promotion, Rhode Island Dept of Health; FC Wheeler, Div of Chronic Disease, South Carolina Dept of Health and Environmental Control; J Fortune, Div of Health Promotion, Tennessee Dept of Health and Environment; GV Lindsay, Bureau of Health Promotion and Risk Reduction, Div of Community Health Svcs, Utah Dept of Health; R Anderson, Health Education Dept, West Virginia Dept of Health; DR Murray, Wisconsin Center for Health Statistics; Div of Nutrition, Center for Health Promotion and Education, CDC.

Editorial Note: State-specific estimates of behavioral risk factors from prior years have been previously reported (1-4). There are differences between this report and previous data. "Acute drinking" in previous reports is now entitled "binge drinking"; "chronic heavier drinking" in previous reports is now entitled "heavier drinking"; "sedentary lifestyle" in this report is computed by a revised algorithm (see footnotes); and "lack of seatbelt use" in previous reports is now entitled "seatbelt nonuse" and is now computed from different response categories. Direct comparisons can be made with the previous reports with the exception of "sedentary lifestyles" and "seatbelt nonuse."

References

1. CDC. Behavioral risk factor prevalence surveys—United States, first quarter 1982. MMWR 1983; 32:141-3.
2. CDC. Behavioral risk factor prevalence surveys—United States, second quarter 1982. MMWR 1983; 32:370-2.
3. CDC. Behavioral risk-factor prevalence surveys—United States, third quarter 1982. MMWR 1983; 32:603-4, 609-10.
4. CDC. Behavioral risk-factor prevalence surveys—United States, fourth quarter 1982. MMWR 1984; 33:247-9.

*Epidemiologic Notes and Reports***Aldicarb Food Poisoning from Contaminated Melons — California**

At 4 a.m., July 4, 1985, three adults who ate a solid green watermelon purchased in Oakland, California, had rapid onset of nausea, vomiting, diarrhea, profuse sweating, excessive tearing, muscle fasciculations, and bradycardia. The most severely ill was a 59-year-old woman who had been receiving digoxin and who, on examination, had a heart rate of 32 and 4-second periods of asystole. The treating physician diagnosed cholinesterase-inhibitor poisoning, and the patient responded rapidly to atropine. The California Department of Health Services (CDHS) had been alerted the day before by Oregon State Health Division officials of

Aldicarb Food Poisoning — Continued

similar, although milder, clusters of illness in Oregon associated with ingestion of striped watermelons, possibly of California origin. CDHS notified the San Francisco Bay Area Regional Poison Control Center to be alert for watermelon-associated illness. When the attending physician consulted the Poison Control Center, CDHS was alerted to the outbreak in California.

CDHS contacted 10 California poison-control centers, 20 selected emergency rooms, and a county health department and identified 12 additional cases in different areas of the state. Later on July 4, Oregon officials reported that aldicarb sulfoxide (ASO) had been detected in several melons associated with similar illnesses. ASO is the primary toxic metabolite of aldicarb (Temik®), a systemic pesticide not registered in the United States for use on watermelons. In the melon associated with the index cases in California, ASO was found at 2.7 parts per million.

At 1 p.m. that same day, CDHS ordered an immediate statewide embargo on watermelon sales and issued state media advisories recommending that persons refrain from eating watermelons. Because watermelons had become so intermingled in the distribution chain, melons harvested in fields thought to be contaminated could not be separated from other melons. Therefore, on July 7, it was decided to destroy all watermelons in the California distribution chain.

Between July 4 and July 8, CDHS developed a case definition (Table 2). All local health departments and poison-control centers in California participated in a surveillance program for acute illnesses related to melon ingestion. In addition to establishing the extent and severity of illnesses that occurred before July 4, surveillance was continued for illnesses related to melons stickered and presumed to be in compliance with a California Department of Food and Agriculture testing program and sold after July 10. Active surveillance continued until August 31 (Figure 1), although case reports were received through September 30. A total of 1,350 cases were reported from all regions of California and were classified as follows: before July 10, 1,005 reports were received—493 (49%) probable cases, 269 (27%) possible cases, and 195 (19%) unlikely cases; for 48 (5%), information was incomplete. For July 10 and after, 345 reports were received—197 (57%) probable cases, 101 (29%) possible cases, and 40 (12%) unlikely cases; for seven (2%), information was incomplete. There were 18 reports with date of illness missing. The majority (61%) were one-person incidents. Approximately 22% of the illnesses were two-person clusters, 10% were three-person clusters, and 3% were four-person clusters. The remainder involved clusters of five, six, nine, and 13 persons.

The most severe signs and symptoms included seizures, loss of consciousness, cardiac arrhythmia, hypotension, dehydration, and anaphylaxis. Seventeen persons were hospitalized. Six deaths and two stillbirths following acute illnesses associated with watermelon ingestion were reported; however, none of the deaths were attributed by the coroners to ASO ingestion, and fetal tissues from both stillbirths tested negative for ASO. In a third pregnancy, decreased fetal movement was noted the same day as a watermelon-related illness in the mother. The mother subsequently gave birth to a normal child.

Of 250 laboratory tests on melons for ASO, 10 (4%) were positive. These 10 included one ASO-positive stickered watermelon associated with illness reported after July 10; an additional ASO-positive stickered watermelon was reported from Canada. Neither of these two positive melons could be traced back to specific fields.

In addition to the reports of watermelon-related illness, 77 illnesses associated with about 25 cantaloupes were reported. All cantaloupe specimens tested negative for ASO, and approximately half were screened for other pesticides (carbamates, organophosphates, and chlorinated pesticides) and were negative. Fewer complaints associated with other types of melons were reported.

Aldicarb Food Poisoning — Continued

Reported by all California local health departments and poison-control centers, RJ Jackson, MD, JW Stratton, MD, Hazard Evaluation Section, LR Goldman, MD, DF Smith, PhD, EM Pond, PhD, D Epstein, MA, RR Neutra, MD, Epidemiological Studies and Surveillance Section, A Kelter, MD, Office of Environmental Health Hazards Assessment, KW Kizer, MD, California Dept of Health Svcs; Special Studies Br, Div of Environmental Hazards and Health Effects, Center for Environmental Health, CDC.

Editorial Note: This is the largest recorded North American outbreak of foodborne pesticide illness. In addition to the 692 probable cases reported by California, 10 other jurisdictions in the United States and Canada reported 483 probable or possible cases according to their own case definitions: Alberta (20), Alaska (47), Arizona (one), British Columbia (206), Colorado (one), Hawaii (two), Idaho (80), Nevada (four), Oregon (104), and Washington (18).

Aldicarb is a carbamate insecticide used in citrus groves and potato fields. Unlike organophosphates, which also interfere with cholinesterase activity, inhibition of cholinesterase by carbamates is rapidly reversible.

TABLE 2. Case definitions for watermelon-associated illness outbreak — California, July 1985

CLASSIFICATION OF CHOLINERGIC SYMPTOMS

- | | |
|---|---|
| 1. Gastrointestinal symptoms:
Abdominal pain
Nausea and/or vomiting
Diarrhea | 3. Skeletal muscle symptoms:
Muscular weakness
Twitching |
| 2. Other peripheral autonomic symptoms:
Blurred vision and/or watery eyes
Pinpoint pupils
Excess salivation
Sweating or clamminess | 4. Central nervous system symptoms:
Seizures
Disorientation or confusion
Excitation |

CLASSIFICATION OF ILLNESS REPORTS

- 1. Probable case:**
 Melon positive for aldicarb or aldicarb metabolites.
 OR Onset less than 2 hours after consuming melon.
 AND ONE OF THE FOLLOWING:
 Multiple groups of cholinergic symptoms or a single group of symptoms and more than one person ill from the same melon.
 OR Onset between 2 and 12 hours after consuming melon, multiple symptoms, and more than one person ill from the same melon.
 - 2. Possible case:**
 Onset less than 2 hours after consuming melon, a single group of symptoms, and no other illnesses reported from the melon.
 OR Onset within 2 to 12 hours after consuming melon and multiple symptoms or symptoms from only one group.
 - 3. Unlikely case:**
 Some other cause of illness judged to be more likely.
 OR Any illness with onset of symptoms more than 12 hours after eating melon.
-

Aldicarb Food Poisoning — Continued

Aldicarb has the lowest LD_{50} of any pesticide registered in the United States (LD_{50} 1 mg/kg body weight) (1). Aldicarb sulfoxide has nearly the same LD_{50} . It has been associated with at least two deaths among agricultural workers (2,3). It is a highly effective systemic insecticide, readily taken up by the roots and carried into the stem, leaves, and fruit of the plant. Severe and potentially lethal contamination levels can result from intentional or inadvertent misapplication to certain crops, as seen in several prior episodes of foodborne aldicarb poisoning involving cucumbers and mint (4,5). It is not registered for use on melons.

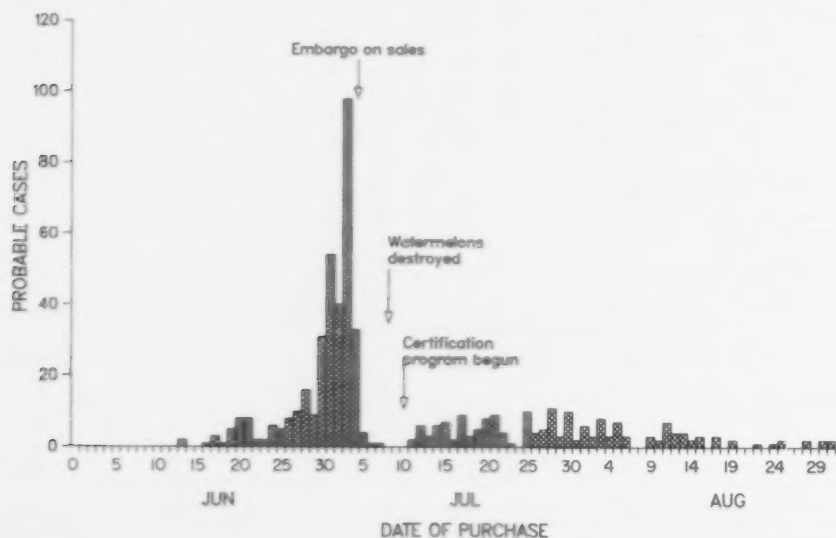
Existing toxicologic data on aldicarb did not predict the severity of the acute illnesses associated with the dose levels found in this outbreak. Animal data do not predict long-term or reproductive effects from aldicarb and its metabolites, and it is not a suspected carcinogen (6). However, few reproductive studies have been conducted at doses that cause maternal toxicity, and, in rats, it has been shown to cause acetyl cholinesterase inhibition in fetal tissues (7).

In the California outbreak, coincidental onset of gastrointestinal illness within 2 hours of eating melon may explain some of the sporadic cases occurring through September. However, the source of illnesses is not clear among those who had illnesses compatible with carbamate poisoning but where laboratory testing of the melons was negative for ASO. Although some of these may have been coincidental, it is possible that the laboratory analyses are too insensitive to detect ASO at levels that can cause human illness. This issue has implications for monitoring pesticide residues in foods and needs further study.

References

1. Moses M. Pesticides. In: Rott WM, ed. Environmental and occupational medicine. Boston: Little, Brown and Company, 1983:547-71.
2. U.S. Environmental Protection Agency: Aldicarb information sheet. July 1985.
3. Lee MH, Ransdell JF. A farmworker death due to pesticide toxicity: a case report. *J Tox and Env Health* 1984;14:239-46.

FIGURE 1. Probable watermelon-related illnesses, by date of purchase — California, June-August 1985



Aldicarb Food Poisoning — Continued

4. Marshall E. The rise and decline of Temik™. *Science* 1985;229:1369-71.
5. Goes EA, Savage EP, Gibbons G, Aaronson M, Ford SA, Wheeler HW. Suspected foodborne carbamate pesticide intoxications associated with ingestion of hydroponic cucumbers. *Am J Epidemiol* 1980;111:254-60.
6. Buell GC. Toxicological properties of aldicarb. Berkeley: California Department of Health Services, 1979; publication no. CA/DOH/AIHL/R-203.
7. Cambon C, Declume C, Derache R. Effect of the insecticidal carbamate derivatives (carbofuran, pirimicarb, aldicarb) on the activity of acetylcholinesterase in tissues from pregnant rats and fetuses. *Toxicol Appl Pharmacol* 1979;49:203-8.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	16th Week Ending			Cumulative, 16th Week Ending		
	Apr. 19, 1986	Apr. 20, 1985	Median 1981-1985	Apr. 19, 1986	Apr. 20, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	261	152	N	3,843	2,030	N
Aseptic meningitis	75	44	63	1,290	1,083	1,237
Encephalitis: Primary (arthropod-borne & unsp.)	5	10	14	242	281	276
Post-infectious	-	2	2	25	40	29
Gonorrhea: Civilian	14,379	15,247	15,632	246,208	239,147	272,149
Military	332	265	358	4,790	5,600	7,413
Hepatitis: Type A	368	456	423	6,811	6,565	6,982
Type B	486	465	414	7,540	7,585	6,940
Non A, Non B	75	88	N	1,007	1,284	N
Unspecified	96	117	123	1,527	1,598	2,216
Legionellosis	9	11	N	166	184	N
Leprosy	6	16	7	86	130	67
Malaria	8	16	16	209	207	210
Measles: Total*	234	95	88	1,845	816	816
Indigenous	225	79	N	1,793	676	N
Imported	9	16	N	52	140	N
Meningococcal infections: Total	38	58	81	997	952	1,115
Civilian	38	57	81	995	950	1,113
Military	-	1	-	2	2	4
Mumps	45	84	85	1,020	1,278	1,304
Pertussis	80	33	28	640	469	469
Rubella (German measles)	17	7	29	163	122	373
Syphilis (Primary & Secondary): Civilian	344	493	564	7,420	7,551	9,335
Military	2	3	6	70	58	115
Toxic Shock syndrome	16	11	N	112	119	N
Tuberculosis	395	471	471	5,849	5,832	6,679
Tularemia	1	1	2	19	25	31
Typhoid fever	1	5	6	65	79	114
Typhus fever, tick-borne (RMSF)	2	6	8	20	24	26
Rabies, animal	89	114	157	1,514	1,416	1,739

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Minn. 1)	14
Botulism: Foodborne	3	Plague	-
infant (Calif. 1)	16	Polio-myelitis, Paralytic	-
Other	-	Psittacosis	16
Brucellosis (N.Y. City 1, Tex. 1)	18	Rabies, human	-
Cholera	-	Tetanus (Ariz. 1)	12
Congenital rubella syndrome	1	Trichinosis	7
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murrel) (Tex. 1)	6
Diphtheria	-		

*Five of the 234 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
April 19, 1986 and April 20, 1985 (16th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1936	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	3,843	75	242	25	246,208	239,147	368	486	75	96	9	86
NEW ENGLAND	158	3	9	1	5,653	7,410	8	45	4	4	2	1
Maine	9	-	-	-	291	310	-	-	-	-	-	-
N.H.	7	1	2	-	160	155	-	-	-	-	-	-
Vt.	2	-	2	1	90	70	-	1	1	-	-	-
Mass.	92	2	2	-	2,439	2,690	3	27	2	3	2	1
R.I.	9	-	-	-	525	549	1	5	1	1	-	-
Conn.	39	-	3	-	2,148	3,636	4	12	-	-	-	-
MID ATLANTIC	1,441	6	40	-	43,956	33,710	13	34	11	34	-	9
Upstate N.Y.	121	2	14	-	4,795	4,791	4	9	1	1	-	1
N.Y. City	1,006	2	10	-	25,936	15,272	1	1	4	32	-	7
N.J.	227	2	5	-	5,978	6,720	1	13	2	-	-	-
Pa.	87	-	11	-	7,247	6,927	7	11	4	1	-	1
E.N. CENTRAL	213	4	49	4	29,519	34,096	12	29	3	2	1	4
Ohio	30	-	15	2	8,624	8,783	3	11	-	-	-	-
Ind.	25	-	5	2	4,452	3,182	1	6	-	1	-	-
Ill.	106	-	7	-	4,283	9,421	6	3	2	-	-	3
Mich.	47	4	21	-	10,335	10,039	2	9	1	1	1	1
Wis.	5	-	1	-	1,825	2,671	-	-	-	-	-	-
W.N. CENTRAL	74	2	6	5	11,111	12,279	23	16	3	1	1	1
Minn.	33	-	4	-	1,663	1,803	-	2	1	-	1	1
Iowa	8	-	2	-	1,087	1,320	2	1	-	-	-	-
Mo.	19	-	-	-	5,400	5,669	3	8	1	1	-	-
N. Dak.	2	-	-	-	109	86	-	-	-	-	-	-
S. Dak.	1	-	-	-	222	218	7	-	-	-	-	-
Nebr.	3	1	-	-	789	1,190	1	2	1	-	-	-
Kans.	8	1	-	5	1,841	1,993	10	3	-	-	-	-
S. ATLANTIC	497	11	41	11	60,574	51,628	21	86	7	2	2	1
Del.	9	1	3	-	1,027	1,136	2	2	-	-	-	-
Md.	46	1	10	-	7,901	8,296	2	7	-	-	1	-
D.C.	78	-	-	-	4,856	4,358	-	-	-	-	-	-
Va.	53	2	16	-	5,388	5,442	1	14	1	1	-	1
W. Va.	2	-	6	-	787	733	-	3	-	-	-	-
N.C.	24	-	5	1	10,512	9,567	1	16	-	-	-	-
S.C.	15	-	-	-	5,708	6,501	-	7	1	-	-	-
Ga.	64	-	-	-	6,682	-	2	13	-	-	-	-
Fla.	206	7	1	10	17,713	15,595	13	24	5	1	1	-
E.S. CENTRAL	32	2	18	1	20,795	20,764	4	26	3	-	-	-
Ky.	10	-	8	-	2,443	2,280	2	2	-	-	-	-
Tenn.	13	-	1	1	8,204	8,185	2	13	1	-	-	-
Ala.	5	1	9	-	5,796	6,528	-	9	1	-	-	-
Miss.	4	1	-	-	4,352	3,771	-	2	1	-	-	-
W.S. CENTRAL	337	13	20	-	30,749	33,504	52	28	4	19	-	5
Ark.	10	-	-	-	2,904	3,161	5	2	2	3	-	-
La.	44	2	2	-	5,503	6,962	3	4	-	-	-	-
Okla.	16	1	4	-	3,606	3,479	3	3	1	1	-	-
Tex.	267	10	14	-	18,736	19,902	41	19	1	15	-	5
MOUNTAIN	83	3	11	1	7,896	7,837	49	53	8	13	2	7
Mont.	1	-	-	1	194	233	1	4	-	3	-	-
Idaho	1	-	-	-	246	264	11	5	-	-	-	-
Wyo.	2	-	2	-	182	202	-	-	-	-	-	-
Colo.	36	-	2	-	2,041	2,361	5	9	-	-	1	3
N. Mex.	6	-	1	-	808	924	6	9	-	1	-	-
Ariz.	22	3	4	-	2,477	2,309	18	19	4	9	1	2
Utah	6	-	1	-	329	315	1	5	-	-	-	-
Nev.	9	-	1	-	1,619	1,229	7	2	4	1	-	2
PACIFIC	1,008	31	48	2	35,955	37,919	186	169	32	21	1	58
Wash.	34	3	5	-	2,670	2,661	12	10	4	-	1	6
Oreg.	20	-	-	-	1,421	1,952	21	17	6	-	-	-
Calif.	936	25	41	2	30,506	31,755	150	134	22	19	-	45
Alaska	8	2	2	-	960	948	3	5	-	2	-	-
Hawaii	10	1	-	-	398	603	-	3	-	-	-	7
Guam	-	-	-	-	30	56	-	1	-	-	-	1
P.R.	31	1	2	-	710	1,213	5	2	-	-	-	-
VI	-	-	-	-	71	141	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	51	235	2	-	-	-	-	1
Amer. Samoa	-	-	-	-	12	-	-	3	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 19, 1986 and April 20, 1985 (16th Week)

Reporting Area	Malaria		Measles (Rubella)				Meningococcal Infections		Mumps		Pertussis			Rubella		
	Cum 1986	1985	Indigenous		Imported *		Cum 1986	Cum 1985	1986	Cum 1985	1986	Cum 1985	Cum 1985	1986	Cum 1985	Cum 1985
			1986	Cum 1986	1986	Cum 1986										
UNITED STATES	209	225	1,793	9	52	816	997	45	1,020	60	640	469	17	163	122	
NEW ENGLAND	12	-	10	-	-	51	74	3	31	-	38	23	-	1	5	
Maine	-	-	-	-	-	-	14	-	-	-	2	2	-	-	-	
NH	-	-	-	-	-	-	4	-	8	-	14	13	-	1	2	
Vt	1	-	-	-	-	-	11	-	-	-	1	2	-	-	-	
Mass	7	-	9	-	-	50	15	-	1	-	9	3	-	-	3	
R.I.	1	-	1	-	-	-	10	-	4	-	1	1	-	-	-	
Conn	3	-	-	-	-	1	20	3	18	-	11	2	-	-	-	
MID ATLANTIC	26	109	725	-	3	60	166	3	60	4	77	55	-	23	31	
Upstate N.Y.	4	-	2	-	2	30	48	2	25	4	52	31	-	15	8	
N.Y. City	8	-	91	-	1	20	36	-	5	-	3	7	-	5	7	
N.J.	3	109	632	-	-	6	27	1	14	-	4	1	-	3	4	
Pa.	11	-	-	-	-	4	55	-	16	-	18	16	-	-	12	
E.N. CENTRAL	6	26	186	-	2	248	118	10	494	2	134	67	-	5	11	
Ohio	1	-	-	-	-	14	55	-	53	-	62	13	-	-	-	
Ind	-	-	-	-	-	1	11	-	15	-	16	11	-	-	-	
Ill	3	26	117	-	-	140	27	-	276	-	16	12	-	4	5	
Mich	2	-	-	-	-	48	25	10	74	2	16	7	-	-	5	
Wis	-	-	69	-	2	45	-	-	76	-	24	24	-	1	1	
W.N. CENTRAL	6	4	83	1	2	5	57	2	47	-	33	38	2	7	7	
Minn	2	-	1	-	-	2	12	-	1	-	16	11	-	-	-	
Iowa	1	-	-	19	1	6	6	1	8	-	5	2	-	-	-	
Mo.	2	-	-	-	1	2	21	-	9	-	4	8	-	1	-	
N. Dak	-	-	-	-	-	-	-	-	2	-	2	6	-	-	-	
S. Dak	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	
Nebr	1	-	-	-	-	-	7	-	-	-	-	1	-	-	-	
Kans.	-	4	82	-	-	1	10	1	26	-	6	10	2	6	7	
S. ATLANTIC	28	22	262	2	6	105	208	7	78	39	174	116	-	6	7	
Del	-	-	-	-	-	-	1	-	1	-	34	68	-	-	-	
Md	3	-	9	2	4	6	28	-	4	2	23	40	-	-	1	
D.C.	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	
Va	6	3	3	-	-	12	36	3	12	-	9	3	-	-	-	
W. Va	3	-	2	-	-	2	3	1	26	1	4	-	-	-	-	
N.C.	3	-	-	-	-	-	32	-	7	-	15	7	-	-	-	
S.C.	2	19	237	-	-	24	2	11	11	-	2	-	-	-	2	
Ga.	3	-	-	-	1	8	31	-	5	2	45	45	-	-	-	
Fla.	11	-	11	-	1	76	49	1	13	-	8	21	-	6	4	
E.S. CENTRAL	4	-	1	-	-	-	55	-	13	-	15	4	-	1	1	
Ky	2	-	-	-	-	-	9	-	2	-	1	1	-	-	-	
Tenn	-	-	1	-	-	-	25	-	9	-	5	1	-	-	-	
Ala	2	-	-	-	-	-	14	-	1	-	9	2	-	-	-	
Miss	-	-	-	-	-	-	7	-	1	-	-	-	-	-	-	
W.S. CENTRAL	17	18	305	4	16	32	77	5	75	1	25	54	5	35	13	
Ark	-	16	281	-	-	-	10	-	6	1	2	9	-	-	1	
La	4	-	-	-	-	1	8	-	-	-	3	2	-	-	-	
Okla	2	-	-	-	-	-	12	N	N	-	20	43	-	-	-	
Tex	11	2	22	4	16	31	47	5	69	-	-	-	5	35	12	
MOUNTAIN	6	46	94	1	8	227	40	8	109	12	82	21	-	-	3	
Mont	-	-	-	-	-	1	121	4	2	-	3	-	-	-	-	
Idaho	1	-	-	-	-	3	1	-	2	11	26	-	-	-	1	
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Colo.	1	-	-	-	3	3	7	1	6	-	16	8	-	-	-	
N. Mex	-	-	15	1	4	1	4	N	N	-	8	3	-	-	1	
Ariz	2	46	79	-	-	99	12	7	95	-	23	3	-	-	1	
Utah	1	-	-	-	-	-	4	-	1	1	9	4	-	-	-	
Nev	1	-	-	-	-	-	6	-	3	-	-	-	-	-	-	
PACIFIC	104	-	127	1	15	98	202	7	113	2	62	91	10	85	44	
Wash	9	-	23	-	7	1	29	1	5	-	25	13	-	1	-	
Oreg	8	-	-	-	2	2	15	N	N	2	5	16	-	-	1	
Calif	87	-	85	-	5	78	151	4	98	-	29	57	10	83	32	
Alaska	-	-	-	-	-	-	6	2	4	-	1	2	-	-	-	
Hawaii	-	-	19	1	1	7	1	-	6	-	2	3	-	1	11	
Guam	1	-	3	-	-	10	-	-	2	-	-	-	-	2	1	
P.R.	1	-	-	-	-	40	2	-	15	-	3	1	58	58	5	
V.I.	-	-	-	-	-	9	-	1	7	-	-	-	-	-	-	
Pac. Trust Terr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Amer Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

*For measles only, imported cases includes both out-of-state and international importations

N Not notifiable U Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 19, 1986 and April 20, 1985 (16th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	7,420	7,551	16	5,849	5,832	19	65	20	1,514
NEW ENGLAND	149	176	1	177	205	-	3	1	1
Maine	10	5	-	18	16	-	-	-	-
N.H.	6	3	-	4	6	-	-	-	-
Vt.	6	-	-	7	3	-	-	-	-
Mass.	73	93	-	88	125	-	2	1	-
R.I.	9	6	1	11	16	-	-	-	1
Conn.	45	69	-	49	39	-	1	-	-
MID ATLANTIC	1,058	1,015	-	1,141	1,117	-	7	1	136
Upstate N.Y.	54	73	-	183	173	-	1	1	24
N.Y. City	604	643	-	563	595	-	4	-	-
N.J.	210	219	-	205	101	-	2	-	-
Pa.	190	80	-	190	248	-	-	-	112
E.N. CENTRAL	181	350	3	769	726	-	4	-	27
Ohio	39	38	2	115	131	-	-	-	2
Ind.	40	31	-	90	85	-	-	-	7
Ill.	39	178	1	340	327	-	-	-	8
Mich.	44	85	-	183	143	-	3	-	3
Wis.	19	18	-	41	40	-	1	-	7
W.N. CENTRAL	71	78	-	163	156	6	3	1	205
Minn.	9	20	-	37	27	-	1	-	20
Iowa	5	12	-	13	25	1	-	-	47
Mo.	39	30	-	85	72	5	2	-	18
N.Dak.	2	-	-	2	2	-	-	-	57
S.Dak.	1	4	-	6	7	-	-	-	41
Nebr.	8	3	-	4	7	-	-	-	5
Kans.	7	9	-	16	16	-	-	1	17
S. ATLANTIC	2,127	1,890	1	1,149	1,168	4	6	6	385
Del.	11	14	-	13	10	-	-	-	-
Md.	142	138	-	80	88	1	-	-	231
D.C.	115	102	1	49	54	-	-	-	-
Va.	144	105	-	110	95	1	2	1	69
W.Va.	3	4	-	43	27	-	-	-	9
N.C.	165	224	-	152	148	1	2	2	1
S.C.	217	244	-	131	143	-	-	2	10
Ge.	256	-	-	143	168	1	-	1	44
Fla.	1,074	1,059	-	428	435	-	2	-	21
E.S. CENTRAL	513	662	-	517	510	3	-	5	90
Ky.	25	26	-	141	103	2	-	1	24
Tenn.	212	197	-	141	152	1	-	-	45
Ala.	180	226	-	173	174	-	-	1	21
Miss.	96	217	-	64	81	-	-	3	-
W.S. CENTRAL	1,622	1,920	2	718	610	5	3	5	211
Ark.	88	90	1	90	55	3	-	-	44
La.	270	330	-	145	86	-	-	-	5
Okla.	49	48	1	62	72	2	1	3	19
Tex.	1,215	1,452	-	421	397	-	2	2	143
MOUNTAIN	192	242	2	110	142	-	2	1	246
Mont.	2	1	-	5	19	-	-	-	93
Idaho	1	2	1	5	3	-	-	-	-
Wyo.	-	5	-	-	3	-	-	1	103
Colo.	61	58	-	1	18	-	-	-	-
N.Mex.	22	27	-	25	27	-	-	-	2
Ariz.	83	134	-	57	61	-	1	-	48
Utah	3	3	-	4	5	-	1	-	-
Nev.	20	12	1	13	6	-	-	-	-
PACIFIC	1,507	1,218	7	1,105	1,198	1	37	-	213
Wash.	27	47	-	62	58	-	2	-	-
Oreg.	31	30	-	39	40	-	-	-	-
Calif.	1,434	1,115	7	930	999	-	33	-	207
Alaska	-	1	-	17	44	1	-	-	6
Hawaii	15	25	-	57	57	-	2	-	-
Guam	1	2	-	-	12	-	-	-	-
P.R.	255	272	-	81	90	-	2	-	14
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	54	15	-	7	23	-	10	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
April 19, 1986 (16th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total	
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1		
NEW ENGLAND	722	495	133	46	11	37	60	S. ATLANTIC	1,524	948	357	108	51	62	75	
Boston, Mass.	198	128	36	20	6	8	24	Atlanta, Ga.	160	99	37	8	2	14	6	
Bridgeport, Conn.	46	32	10	2	-	2	1	Baltimore, Md.	261	163	66	19	8	5	8	
Cambridge, Mass.	26	15	9	2	-	-	2	Charlotte, N.C.	82	53	16	8	2	3	8	
Fall River, Mass.	31	22	7	2	-	-	2	Jacksonville, Fla.	108	71	22	9	5	1	9	
Hartford, Conn.	60	41	13	3	-	3	4	Miami, Fla.	145	95	29	15	3	3	1	
Lowell, Mass.	26	14	9	3	-	-	1	Norfolk, Va.	63	36	18	2	2	5	5	
Lynn, Mass.	17	14	2	1	-	-	-	Richmond, Va.	90	53	21	3	5	8	6	
New Bedford, Mass.	22	21	1	-	-	-	3	Savannah, Ga.	49	34	11	2	1	1	7	
New Haven, Conn.	67	35	8	4	2	18	2	St. Petersburg, Fla.	144	117	18	5	1	3	10	
Providence, R.I.	78	56	15	4	-	3	8	Tampa, Fla.	76	42	23	5	4	2	4	
Somerville, Mass.	5	4	1	-	-	-	-	Washington, D.C.	323	166	94	28	18	17	10	
Springfield, Mass.	46	40	5	-	1	-	6	Wilmington, Del.	23	19	2	2	-	-	1	
Waterbury, Conn.	29	20	5	2	1	1	2	ES. CENTRAL	777	499	157	45	23	23	41	
Worcester, Mass.	71	53	12	3	1	2	4	Birmingham, Ala.	122	73	34	9	3	3	4	
MID ATLANTIC	2,806	1,860	601	228	67	48	156	Chattanooga, Tenn.	50	31	14	2	2	1	5	
Albany, N.Y.	55	36	11	3	2	3	1	Knoxville, Tenn.	100	73	14	7	2	4	11	
Allentown, Pa.	24	21	2	1	-	-	-	Louisville, Ky.	108	67	30	4	5	2	4	
Buffalo, N.Y.	100	60	29	6	2	3	8	Memphis, Tenn.	174	116	38	10	5	5	9	
Camden, N.J.	36	24	8	4	-	-	2	Mobile, Ala.	89	51	28	2	3	5	3	
Elizabeth, N.J.	26	20	6	-	-	-	-	Montgomery, Ala.	32	23	6	2	1	-	-	
Erie, Pa.†	36	29	6	1	-	-	7	Nashville, Tenn.	102	65	23	9	2	3	5	
Jersey City, N.J.	55	36	12	4	2	1	-	W.S. CENTRAL	1,438	875	312	141	61	49	59	
N.Y. City, N.Y.	1,472	956	322	146	33	15	70	Austin, Tex.	56	37	10	5	1	3	1	
Newark, N.J.	84	36	21	17	5	3	3	Baton Rouge, La.	49	28	12	9	-	-	2	
Paterson, N.J.	23	13	7	3	-	-	3	Corpus Christi, Tex.	43	26	11	4	1	1	4	
Philadelphia, Pa.	416	285	93	19	10	9	27	Dallas, Tex.	191	109	40	22	13	7	3	
Pittsburgh, Pa.†	90	60	23	4	2	1	4	El Paso, Tex.	53	35	10	4	2	2	4	
Reading, Pa.	27	22	3	1	-	1	3	Fort Worth, Tex.	98	64	17	9	7	1	6	
Rochester, N.Y.	122	88	23	5	4	2	16	Houston, Tex.‡	434	255	92	49	19	19	12	
Schenectady, N.Y.	26	21	1	2	2	-	3	Little Rock, Ark.	94	54	26	6	4	4	4	
Scranton, Pa.†	33	25	7	1	-	-	1	New Orleans, La.	107	61	30	9	3	4	-	
Syracuse, N.Y.	93	63	14	6	3	7	2	San Antonio, Tex.	158	106	30	12	6	4	14	
Trenton, N.J.	44	31	5	4	2	2	3	Shreveport, La.	54	34	12	5	-	3	3	
Utica, N.Y.	19	14	5	-	-	-	1	Tulsa, Okla.	101	66	22	7	5	1	6	
Yonkers, N.Y.	25	20	3	1	-	1	2	MOUNTAIN	670	425	122	62	38	22	44	
E.N. CENTRAL	2,293	1,472	497	168	63	93	93	Albuquerque, N.Mex.	104	66	15	9	10	3	9	
Akron, Ohio	70	46	14	5	1	4	-	Colorado Springs, Colo.	33	16	8	3	3	3	4	
Canton, Ohio	39	26	11	2	-	-	1	Denver, Colo.	103	68	20	9	3	3	6	
Chicago, Ill.‡	570	357	128	47	12	26	17	Las Vegas, Nev.	89	46	20	13	7	3	2	
Cincinnati, Ohio	144	89	33	5	3	14	8	Ogden, Utah	29	21	7	-	1	-	7	
Cleveland, Ohio	170	93	47	14	7	9	2	Phoenix, Ariz.	125	72	21	16	8	8	3	
Columbus, Ohio	127	82	26	8	6	5	5	Pueblo, Colo.	23	21	-	1	1	-	3	
Dayton, Ohio	123	91	22	7	1	2	3	Salt Lake City, Utah	43	28	8	3	2	2	2	
Detroit, Mich.	245	140	55	27	13	10	8	Tucson, Ariz.	121	87	23	8	3	-	8	
Evansville, Ind.	44	27	10	6	1	-	2	PACIFIC	1,819	1,174	369	162	60	49	104	
Fort Wayne, Ind.	55	43	8	3	-	1	6	Berkeley, Calif.	18	16	2	-	-	-	1	
Gary, Ind.	17	8	5	2	1	1	1	Fresno, Calif.	68	46	11	6	2	3	2	
Grand Rapids, Mich.	38	26	8	2	1	-	4	Glendale, Calif.	22	19	2	1	-	-	1	
Indianapolis, Ind.	203	143	36	12	6	6	8	Honolulu, Hawaii	63	36	18	4	3	2	2	
Madison, Wis.	30	21	6	2	1	-	4	Long Beach, Calif.	115	73	24	7	2	9	13	
Milwaukee, Wis.	126	94	21	7	2	2	3	Los Angeles, Calif.	332	190	72	46	15	5	6	
Peoria, Ill.	53	34	15	1	2	1	11	Oakland, Calif.	101	67	15	14	1	4	5	
Rockford, Ill.	49	28	11	4	1	5	1	Pasadena, Calif.	31	20	10	-	1	-	1	
South Bend, Ind.	37	27	5	1	2	2	3	Portland, Ore.	110	76	23	5	5	1	5	
Toledo, Ohio	97	66	17	8	3	3	5	Sacramento, Calif.	155	103	36	10	4	1	13	
Youngstown, Ohio	56	31	19	5	-	1	4	San Diego, Calif.	209	138	37	17	10	7	24	
W.N. CENTRAL	741	497	162	42	17	23	39	San Francisco, Calif.	177	105	39	21	5	7	4	
Des Moines, Iowa	75	55	13	4	2	1	3	San Jose, Calif.	144	102	30	7	2	3	11	
Duluth, Minn.	17	10	5	1	-	1	1	Seattle, Wash.	166	109	31	14	7	5	10	
Kansas City, Kans.	40	26	9	3	1	1	1	Spokane, Wash.	67	49	9	5	2	2	6	
Kansas City, Mo.	115	75	30	6	1	3	8	Tacoma, Wash.	41	25	10	5	1	-	-	
Lincoln, Nebr.	27	15	10	2	-	-	1	TOTAL	12,790	8,245	2,740	1,000	391	405	671	
Minneapolis, Minn.	96	61	20	6	3	6	6									
Omaha, Nebr.	86	57	18	5	2	4	6									
St. Louis, Mo.	132	88	27	8	4	5	3									
St. Paul, Minn.	77	56	15	3	2	1	7									
Wichita, Kans.	76	54	15	4	2	1	8									

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Ciguatera Fish Poisoning — Vermont

On October 29, 1985, the Epidemiology Division, Vermont Department of Health, learned of two persons with symptoms consistent with ciguatera fish poisoning. Both had eaten barracuda at a local restaurant on October 19. One ill person, a 48-year-old woman, had vomiting, diarrhea, myalgia, and chills 4 hours after the meal, followed the next morning by pruritus, flushing, burning of the tongue, and reversal of hot and cold temperature sensation of objects held in her hands. The second ill person, a 30-year-old male bartender at the restaurant, sought medical attention for severe myalgia and gingival and dental dysesthesia several hours after eating barracuda. In both patients, most symptoms subsided; however, some pruritus and temperature reversal persisted 6 weeks later. A third patron reported pruritus to the restaurant after the meal but was lost to follow-up. No additional cases were identified by contacting the two local emergency rooms and requesting case reports in the *Vermont Disease Control Bulletin*.

The restaurant had served 24 portions of barracuda received fresh by air from a fish distributor in Florida. Two other restaurants in Burlington had received barracuda from the same shipment. One served 44 portions, and the second froze all portions received. The fish distributor reported that the fish was purchased from boats fishing in Florida's coastal waters but could not identify the exact location. The distributor ships to locations throughout the contiguous United States. No information was available about the distribution of other fish from the same catch.

All portions of a single barracuda frozen by one restaurant and tested for ciguatoxin by enzyme immunoassay at the Department of Pathology, University of Hawaii, were positive for ciguatoxin.

Reported by RL Vogt, MD, State Epidemiologist, Vermont Dept of Health; AP Liang, MD, State Epidemiologist, Hawaii Dept of Health; Div of Field Svcs, Epidemiology Program Office, Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Human ciguatera poisoning can occur after consumption of a wide variety of coral reef fish, such as barracuda, grouper, red snapper, amberjack, surgeonfish, and sea bass (1,2). Ciguatoxin and related toxins are derived from dinoflagellates, which herbivorous fish consume while foraging through the macro-algae (3). Humans ingest the toxin by consuming either herbivorous fish or carnivorous fish that have eaten the contaminated herbivores. Larger, more predacious reef fish are generally more likely to be toxic (4,5). Since the toxin is heat-stable, cooking does not make the fish safe to eat.

As the domestic and imported fish industry expands its market, the diagnosis of this "tropical" disease must be considered even in areas to which coral-reef fish are not native. Ciguatera fish poisoning can be diagnosed by the characteristic combination of gastrointestinal and neurologic symptoms in a person who ate a suspect fish (6). The diagnosis can be supported by detection of ciguatoxin in the implicated fish.

Hawaii now uses a "stick test" immunoassay to detect ciguatoxin in fish (7). The test is sensitive, specific, inexpensive, and easy to use in the field. In Hawaii, if an outbreak-related fish tests positive for ciguatoxin, the reef area of catch is posted to discourage further fishing in that area. In Miami, Florida, because barracuda have been frequently associated with ciguatera poisoning, a city ordinance bans the sale of barracuda (8).

References

1. Morris JG Jr, Lewin P, Smith CW, Blake PA, Schneider R. Ciguatera fish poisoning: epidemiology of the disease on St. Thomas, U.S. Virgin Islands. *Am J Trop Med Hyg* 1982;31:574-8.
2. Halstead BW. Class osteichthyes: poisonous ciguatoxic fishes. In: Halstead BW. Poisonous and venomous marine animals of the world. Princeton: Darwin Press, Inc., 1978:325-402.

Ciguatera Fish Poisoning — Continued

3. Bagnis R, Chanteau S, Chungue E, Hurtel JM, Yasumoto T, Inoue A. Origins of ciguatera fish poisoning: a new dinoflagellate, *Gambierdiscus toxicus* Adachi and Fukuyo, definitively involved as a causal agent. *Toxicon* 1980;18:199-208.
4. CDC. Ciguatera fish poisoning—Bahamas, Miami. *MMWR* 1982;31:391-2.
5. Craig CP. It's always the big ones that should get away [Editorial]. *JAMA* 1980;244:272-3.
6. Hughes JM, Merson MH. Fish and shellfish poisoning. *N Engl J Med* 1976;295:1117-20.
7. Hokama Y. A rapid, simplified enzyme immunoassay stick test for the detection of ciguatoxin and related polyethers from fish tissues. *Toxicon* 1985;23:939-46.
8. Lawrence DN, Enriquez MB, Lumish RM, Maceo A. Ciguatera fish poisoning in Miami. *JAMA* 1980;244:254-8.

Restaurant-Associated Scombroid Fish Poisoning — Alabama, Tennessee

Between December 31, 1985, and January 4, 1986, three restaurants in Alabama and Tennessee received complaints of illness from nine customers and one employee who ate Pacific amberjack fish (also called yellowtail or kahala). Detailed information was obtained on four of the 10 persons. Illness onset occurred 10-90 minutes after eating (median 23 minutes). Symptoms included red facial rash (4/4), body rash (2/4), severe headache (2/4), oral paresthesias (1/4), shortness of breath (2/4), vomiting (1/4), and diarrhea (3/4). Of the three persons who sought medical evaluation, one had diastolic hypotension, and one had bronchospasm. All three were diagnosed as having food or fish allergy and were treated with an antihistamine. Rash persisted for 2-5 hours (median 3 hours), and all other symptoms resolved in 3-36 hours (median 14 hours). One restaurant cook, who did not eat the fish, reported a transient red rash on the hands shortly after handling the fish.

All persons reported no other menu items in common. The fish meals were prepared by grilling or frying, and none of the restaurants reported using food preservatives or monosodium glutamate (MSG) on the fish.

In November 1985, a Florida seafood company procured 1,100 pounds of fresh amberjack from southern California. A 120-pound portion was resold December 30 to a distributor that in turn supplied the fish to nine restaurants in Alabama, Kentucky, and Tennessee. After receiving complaints from three of the restaurants, the distributor promptly notified all recipient restaurants and collected 20 pounds of amberjack. Analysis of the leftover fish by the U.S. Food and Drug Administration (FDA) showed 19 of 20 subsamples had markedly elevated levels of histamine (257-430 mg%). (Fresh fish normally contains less than 1 mg% of histamine.) The remaining fish, which had not been distributed, was destroyed under FDA supervision.

Reported by JFE Shaw, MPA, Jefferson County Health Dept, Birmingham, WE Birch, DVM, State Epidemiologist, Alabama State Dept of Public Health; RH Hutcheson, MD, State Epidemiologist, Tennessee Dept of Health and Environment; Investigations Br, Nashville District Office, W Staruszkiewicz, Div of Food Technology, Center for Food Safety and Applied Nutrition, US Food and Drug Administration; Div of Field Svcs, Epidemiology Program Office, Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The symptoms of scombroid fish poisoning resemble those of a histamine reaction; the illness is characterized by flushing, headache, dizziness, burning of the mouth and throat, abdominal cramps, nausea, vomiting, and diarrhea. Urticaria and generalized pruritus often occur (1). In severe cases, bronchospasm and respiratory distress may develop (2).

Scombroid Fish Poisoning — Continued

Some victims complain that the toxic food has a sharp or peppery taste. Typical incubation periods are less than 1 hour, although wide variations can occur among individuals (1).

Scombroid means mackerel-like; mackerel, tuna, and bonito are related species that are often implicated in outbreaks of scombroid poisoning. However, nonscombroid species, such as the amberjack reported here, have also been implicated in scombroid poisoning (2,3). Of the 73 outbreaks of scombroid poisoning reported to CDC during the 5-year period 1978-1982, 31 (42%) implicated mahi-mahi (dolphin fish), a nonscombroid fish (4).

Poisoning is caused by the ingestion of spoiled fish. Histamine and probably other toxic by-products are produced by bacterial action on histidine, a normal muscle constituent of dark-meat fishes (5). Scombroid poisoning is a response to toxic by-products—not an allergic reaction to fish. Once formed, the toxins are heat-stable, so the best defense against poisoning is prompt storage of freshly caught fish at 0°C (32°F) or below (6). Laboratory confirmation of scombroid fish poisoning is based on demonstrating elevated histamine levels in incriminated fish (1). Public health authorities should be notified when this or other fish-related illness is suspected so that the distribution of the implicated food can be determined.

References

1. Hughes JM, Merson MH. Fish and shellfish poisoning. *N Engl J Med* 1976; 295:1117-20.
2. Halstead BW. Class osteichthyes: poisonous scombrotoxic fishes. In: Halstead BW. *Poisonous and venomous marine animals of the world*. Princeton: Darwin Press, Inc., 1978:417-35.
3. CDC. Foodborne and waterborne disease outbreaks, annual summary 1977.
4. CDC. Foodborne disease surveillance, annual summary reports, 1978 to 1982.
5. Arnold SH, Brown WD. Histamine toxicity from fish products. *Adv in Food Res* 1978; 23:113-54.
6. Behling AR, Taylor SL. Bacterial histamine production as a function of temperature and time of incubation. *J Food Sci* 1982; 47:1311-4.

Cytotoxicity of Volcanic Ash: Assessing the Risk for Pneumoconiosis

The recent eruptions of the Mount Augustine volcano in Alaska, which began March 27, 1986, have again raised concerns about the possible adverse health effects of exposure to volcanic dusts (1). Following similar eruptions at Mount St. Helens in Washington State, beginning May 18, 1980 (2); El Chichon, south of Mexico City, Mexico, March 29, 1982; and Galunggung in West Java, Indonesia, May 5, 1983, immediate, acute, and nonspecific irritant effects were reported in the eyes and upper airways of persons exposed to volcanic dusts over wide geographic areas. Moreover, repeated exposures to high concentrations of volcanic ash can pose a potential risk for the development of pneumoconiosis, especially if the particle-size distribution of volcanic ash includes an appreciable proportion of respirable-sized particles ($\leq 10 \mu\text{m}$ in median mass aerodynamic diameter [MMAD]) which contain the toxic mineral, free crystalline silica (SiO_2). Because such exposures may involve workers who are regularly employed outdoors, as well as workers specifically assigned to clean up after volcanic eruptions, the National Institute for Occupational Safety and Health (NIOSH) has conducted laboratory-based studies to provide indices of the cytotoxicity and fibrogenicity of various substances possibly present in volcanic ash. These indirect evaluations indicated that certain respirable fractions of volcanic ash were moderately cytotoxic *in vitro* and mildly fibrogenic *in vivo* (3-6).

Volcanic Ash — Continued

To determine whether these results are representative of other types of volcanic ash, NIOSH compared the cytotoxicity of samples from the eruptions of Mount St. Helens, El Chichon, and Galunggung with those of a mineral of known cytotoxicity, quartz, and a relatively inert mineral, barite. Assays for cytotoxicity were based on the hemolysis of the red cells of sheep and the release of the enzymes, lactate dehydrogenase, B-N-acetylglucosaminidase, and B-glucuronidase, from alveolar macrophages (Table 3). The ash samples were all similar in quartz content and elemental composition. However, the sample of volcanic ash from Galunggung was significantly more cytotoxic than the other ash samples and approximated the cytotoxicity of quartz. The samples of volcanic ash from Mount St. Helens and El Chichon had cytotoxicities about midway between those of quartz and barite. Differences in the cytotoxicities of volcanic ash were related more to differences in the particle-size distributions in each ash sample than to differences in minerologic composition; those samples having the greater proportions of small particles (i.e., more surface area per given weight of ash sample) exhibited more cytotoxic activity.

Reported by University of West Virginia, Morgantown; Pathology Section, Laboratory Investigations Br, Div of Respiratory Disease Studies, Applied Biology and Physics Br, Div of Behavioral and Biomedical Science, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Exposure to airborne mineral dusts has been associated with the subsequent development of chronic bronchitis (mucous hypersecretion or obstructive-airways disease) and/or pneumoconiosis in humans. Pulmonary fibrosis usually results from cumulative exposure to dust, and may not become manifest until several decades after initial exposure. The type and severity of disease resulting from exposure to mineral dusts depends to a large extent on the size, shape, surface characteristics, chemistry, and crystallinity of the dust particles.

Several methods have been developed to measure the cytotoxicity of mineral dusts in vitro. The two methods reported here use the hemolysis of bovine red cells and the release of lysosomal enzymes from alveolar macrophages as end points. Although many minerals show good correlation between the values obtained in these tests and in vivo fibrogenicity, the occurrence of false-positive and false-negative results may weaken the predictive value of the tests. Further study is needed to determine the causes of these discrepancies and the exact relationship between cytotoxicity and fibrogenicity.

Volcanic ash is a good example of an environmental hazard with unknown potential to cause pneumoconiosis in human populations (1). The results of these studies show that ash from all three volcanoes was cytotoxic in vitro, and exposure studies conducted in animals in-

TABLE 3. Comparison of the cytotoxicity of samples of volcanic ash and two minerals

Mineral/ash	% hemolysis (10 mg dust/ml)	% free silica	% particles < 10 μ m MMAD	Enzymes released (1 mg dust/ml)*		
				LDH†	B-NAG‡	B-GLUC§
Silica	97	99	98	45	32	26
Galunggung-1	66	1.4-1.9	8.8-16.5	51	30	23
El Chichon	61	1.7	6.2	33	18	13
Mount St. Helens	32	1.5	81	31	15	12
Barite	16	0	98	34	20	16

*Units per 2×10^6 cells/ml/2 hours.

†Lactate dehydrogenase.

‡B-N-acetylglucosaminidase.

§B-glucuronidase.

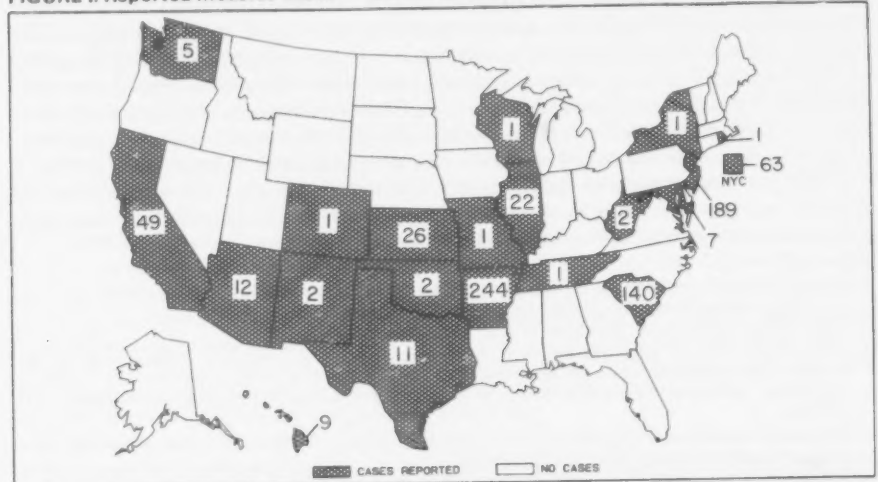
Volcanic Ash — Continued

dicates that volcanic ash is mildly fibrogenic in vivo (1,5). However, the results of a 5-year longitudinal follow-up of loggers exposed to volcanic ash from Mount St. Helens suggest that risks of chronic bronchitis or pneumoconiosis are probably negligible in humans under the usual conditions of such occupational exposure, i.e., initially high and decreasing over time. Following an explosive volcanic eruption, with significant potential for chronic human exposure to volcanic ash, it would be appropriate to evaluate the size distribution of the sedimented ash and the percentage of free crystalline silica in the respirable-sized ash particles. Based on such an evaluation and a consideration of the intensity, frequency, and duration of exposure, it would be possible to provide appropriate advice to occupational and community groups about the need for limiting or avoiding exposures.

References

1. Buist AS, Bernstein RS. Health effects of volcanoes: an approach to evaluating the health effects of an environmental hazard. *Am J Public Health* 1986;76(suppl): 1-90.
2. CDC. Follow-up on Mount St. Helens. *MMWR* 1980;29:263-4.
3. Green FH, Bowman L, Castranova V, et al. Health implications of the Mount St. Helens eruption: laboratory investigation. *Ann Occupational Hyg* 1982;26:921-33.
4. Green FH, Vallyathan V, Mentnech MS, et al. Is volcanic ash a pneumoconiosis risk? *Nature* 1981; 293:216-7.
5. Vallyathan V, Mentnech MS, Stettler LE, Dollberg DD, Green FH. Mount St. Helens' volcanic ash: hemolytic activity. *Environ Res* 1983;30:349-60.
6. Vallyathan V, Mentnech MS, Tucker JH, Green FH. Pulmonary response to Mount St. Helens' volcanic ash. *Environ Res* 1983;30:361-71.

FIGURE 1. Reported measles cases — United States, weeks 12-15, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to, ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/21052 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 *
NEWARK PUBLIC LIBR *
5 WASHINGTON ST *
NEWARK NJ 07101 *
*

2
H

5/17
CENTERS FOR DISEASE CONTROL

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

May 2, 1986 / Vol. 35 / No. 17

- 269 National Birthweight-Specific Infant Mortality Surveillance: Preliminary Analysis — United States, 1980
- 274 Ammonia Contamination in a Milk Processing Plant — Wisconsin
- 275 Rubella Vaccination during Pregnancy — United States, 1971-1985
- 284 HTLV-III/LA Virus Antibody Testing at Alternate Sites

Current Trends

National Birthweight-Specific Infant Mortality Surveillance: Preliminary Analysis — United States, 1980

Low birthweight (LBW), the greatest single problem associated with infant mortality (1), is related to many infant and maternal characteristics (2), including several that can be examined using vital records. Such records include infant's race, sex, gestational age at birth, birth order and plurality, and mother's age, educational attainment, and prenatal-care history. These maternal and infant characteristics are also related to neonatal* and postneonatal† mortality in varying degrees, in part because of their association with LBW. To examine these associations in the population, it is necessary to link individual birth and infant death certificates. While such linkage has been conducted in various states, the last national birth-death linkage was performed for infants born during 1960 (3). CDC, in collaboration with all states, the National Institute of Child Health and Human Development, the National Center for Health Statistics (NCHS), and the Health Resources and Services Administration, compiled birth-death linked data for live births occurring in 1980 based on linkages performed within each state, New York City, the District of Columbia, and Puerto Rico.

Preliminary analysis from this National Infant Mortality Surveillance (NIMS) shows that neonatal mortality (NNM) ranged from 647.6/1,000 live-born infants 500-999 g[§] to 1.4/1,000 live-born infants 3,500-3,999 g (Figure 1). However, at 3,500 g or greater, NNM increased with increasing birthweight. Compared with black infants, white infants under 3,000 g had higher NNM, but whites 3,000 g or greater had lower NNM than blacks with comparable birthweight.

Postneonatal mortality (PNM) among neonatal survivors ranged from 135.2/1,000 survivors 500-999 g at birth to 1.9/1,000 survivors 4,000-4,499 g at birth (Figure 2). PNM rose with birthweight 4,500 g or greater for both blacks and whites. Black neonatal survivors experienced higher PNM in all birthweight categories.

There was a 93.9-fold relative risk (RR) of infant mortality for singleton infants under 1,500 g at birth (469.4 deaths/1,000 live births), compared with infants 2,500 g or greater (5.0 deaths/1,000 live births) (Table 1). When smaller white singleton infants were compared with larger white singleton infants, the RR was somewhat higher (108.0) than the RR (93.9) for those of all races. When smaller black singleton infants were compared with larger, the RR was lower (61.6), primarily because infant mortality among black infants did not improve as

*Neonatal death: death occurring from 0 days to 27 days

†Postneonatal death: death occurring from 28 days to 1 year

§By definition, all live-born infants under 500 g died during the neonatal period.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE



best copy available

20.7009:

Infant Mortality Surveillance -- Continued

greatly with increasing birthweight. Moreover, black infants under 2,500 g had a lower infant mortality than white infants of comparable birthweight (under 1,500 g and 1,500-2,499 g), while black infants 2,500 g or greater had a greater risk of infant mortality. The overall two-fold higher risk of infant mortality for blacks than for whites reflects their excess mortality

FIGURE 1. Neonatal mortality rates, by race and birthweight — United States, 1980 live birth cohort

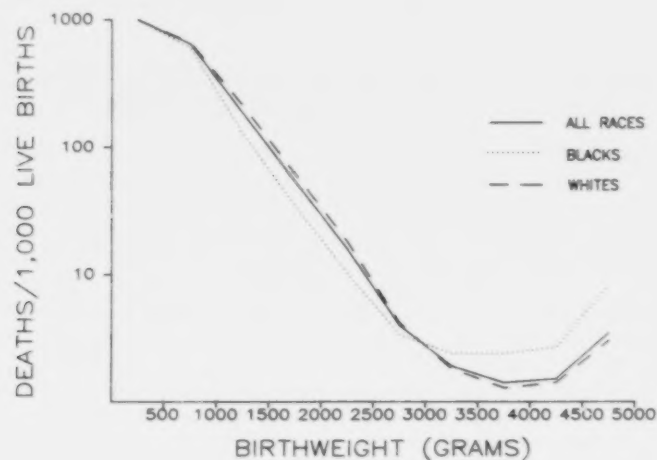
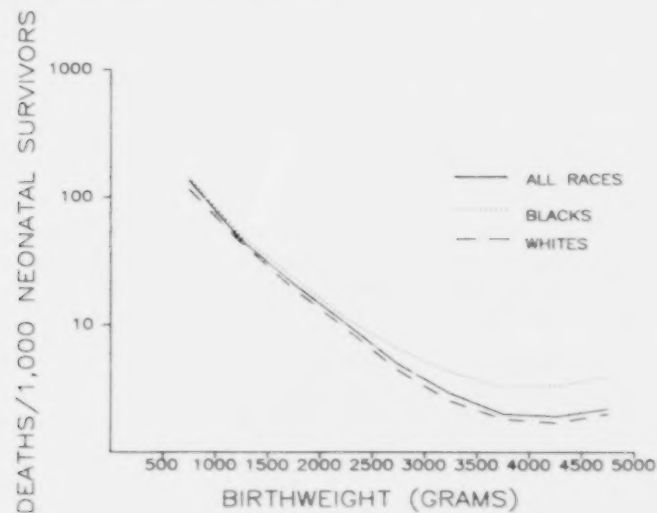


FIGURE 2. Postneonatal mortality rates, by race and birthweight — United States, neonatal survivors of 1980 live birth cohort



Infant Mortality Surveillance — Continued

among the majority of births that occur in the larger-weight categories as well as the higher risk of LBW among black infants. For singleton black infants, 2.1% were under 1,500 g, and 9.2% weighed 1,500-2,499 g; percentages for singleton white infants were 0.7% and 4.2%, respectively.

For multiple-born infants (e.g., twins, triplets), birthweight-specific infant mortality also declined with increasing birthweight (Table 1); black multiple-born infants experienced lower infant mortality than whites, only at birthweight under 1,500 g. Within races, multiple-born infants under 2,500 g had lower infant mortality than singleton infants of comparable birthweight (under 1,500 g and 1,500-2,499 g), but multiple-born infants 2,500 g or greater had higher infant mortality. Among black multiple-born infants, 16.3% were under 1,500 g, and 45.5% were 1,500-2,499 g; among whites, 9.4% were under 1,500 g, and 39.8% weighed 1,500-2,499 g. Overall, multiple-born infants experienced higher infant mortality than singleton infants because of a greater risk of both LBW and death among heavier infants.

Infant mortality was higher among singleton males than among singleton females (Table 2). Among white singletons, infant mortality improved with longer gestations to 42 weeks and was lowest for second-born infants; for blacks, infant mortality was lowest for third-born infants and decreased with increasing gestation to 40 weeks. Infant mortality was lowest for black infants born to mothers 25-34 years of age; for white infants, infant mortality was lowest among those born to mothers 30-34 years of age. For all races combined, infant mortality was lowest among infants born to college graduates and women who received prenatal care beginning in the first trimester.

Reported by all state health depts; the health depts of New York City, the District of Columbia, and Puerto Rico; Demographic and Behavioral Sciences Br. Center for Population Research, National Institute of Child Health and Human Development, National Institutes of Health; Div of Maternal and Child Health, Health Resources and Svcs Administration; National Center for Health Statistics; Pregnancy Epidemiology Br. Research and Statistics Br. Div of Reproductive Health, Center for Health Promotion and Education, CDC.

Editorial Note: The reduction of infant mortality is a major health objective in the United States (7). Success in improving survival of LBW infants since 1960 has not been paralleled by a decline in the incidence of LBW (2,4-8). Lower infant mortality rates in other industrialized nations point to further improvements that can be achieved in the United States (8-10), especially for black infants who continue to suffer neonatal and postneonatal mortality rates approximately twice as high as those for white infants (11,12).

TABLE 1. Infant deaths and infant mortality rate per 1,000 live births, by birthweight, race, and plurality, for infants born during 1980 — U.S. National Infant Mortality Surveillance

Plurality/race	Birthweight (grams)						Total*	
	< 1,500		1,500-2,499		≥ 2,500			
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Singletons								
Blacks	5,152	443.2	1,512	29.5	3,609	7.2	10,602	18.4
Whites	9,568	475.3	4,411	38.5	11,764	4.4	26,478	9.3
All†	15,302	469.4	6,207	36.3	16,133	5.0	38,887	11.0
Multiple-borns								
Blacks	937	417.1	144	23.2	63	12.0	1,185	83.2
Whites	2,261	469.1	405	20.0	195	7.5	2,997	55.8
All†	3,312	456.7	571	21.0	264	8.2	4,330	61.9

*Total number includes infant deaths of unknown birthweight; for calculation of rates, numbers of unknown birthweights were redistributed among known birthweights.

†All races, including unknown race and infants of other races.

Infant Mortality Surveillance — Continued

Analysis of infant mortality by birthweight provides a powerful tool at both national and state levels for identifying problems in maternal and infant care and for developing intervention plans. The NIMS project represents an intermediate step towards the routine annual collection of linked birth and death information as proposed by NCHS. This project required major efforts from all states and other vital registration reporting areas to provide the first national data on birthweight-specific infant mortality since 1960.

TABLE 2. Infant mortality rate* per 1,000 live births, by race and selected characteristics, for singleton infants born during 1980 — U.S. National Infant Mortality Surveillance

Characteristic	Blacks	Whites	All races
Infant's			
Sex			
Male	20.1	10.4	12.1
Female	16.8	8.2	9.7
Gestation (wks.)			
17-27	456.1	529.0	509.3
28-31	100.0	136.7	125.0
32-35	24.2	29.4	28.3
36	12.1	14.0	13.9
37	10.9	9.3	9.9
38-39	7.2	4.8	5.3
40	8.4	4.5	5.1
41	7.9	4.1	4.7
42-45	10.0	5.6	6.3
Live-birth order			
First	18.5	9.5	10.9
Second	17.7	8.7	10.2
Third	16.6	9.2	10.7
Fourth	17.5	9.7	11.7
Fifth	20.9	11.5	14.0
Sixth or higher	20.0	11.8	14.4
Mother's			
Age (yrs.)			
10-14	35.5	25.0	31.5
15-19	20.8	13.6	15.8
20-24	18.1	9.4	11.1
25-29	16.5	8.0	9.2
30-34	16.5	7.8	9.0
35-39	18.7	9.3	10.8
40-44	19.1	14.1	15.1
45-49	35.0	21.1	22.6
Education (yrs.)			
0-8	25.3	15.1	17.2
9-11	22.0	13.7	16.3
12	17.5	8.9	10.6
13-15	15.4	7.4	8.8
≥ 16	13.2	6.7	7.3
Month prenatal care began			
1-3	16.7	8.5	9.7
4-6	17.1	11.0	12.6
7-9	16.2	10.8	12.4
None	67.1	38.3	48.7

*Rates were based on birthweights that included redistributed unknown birthweights.

Infant Mortality Surveillance — Continued

With the exception of infant's sex and race, information on the relationship between these infant and maternal characteristics and the risk of infant death can be obtained only through linkage of the birth certificate and the death certificate with information on cause and age at death. This preliminary analysis has revealed gradients in infant mortality for all reported characteristics, including at least a twofold gradient by maternal age and education for both blacks and whites. These data confirm the findings of previous studies that indicate a crossover in NNM between blacks and whites, with black infants experiencing lower NNM at lower birthweights and white infants experiencing lower NNM at higher birthweights (12,13). This crossover is also evident by reported gestational age. For birthweight under 3,000 g, black infants have been reported to experience lower NNM for all combinations of birthweight and gestational age in individual states (12,13).

These data will be disseminated through detailed tabulations in forthcoming reports that will include numbers and rates for NNM and PNM divided into 500-g intervals (under 4,500 g). In addition to the characteristics for singleton births listed in Table 2 (i.e., infant's sex, gestation, and live-birth order, and mother's age, education, and month prenatal care began), data will be available for type of delivery, number of other previous terminations, and number of prenatal-care visits. All tables for singleton infants will be reported separately for blacks, whites, and all races. For multiple gestations, data include plurality, gestational age, type of delivery, race, and birthweight. For all singleton deaths, data will also be tabulated by underlying cause, birthweight, race, and age at death. Preliminary analysis by cause of death has previously been reported (14).

References

1. U.S. Public Health Service. Pregnancy and infant health. In: Promoting health preventing disease objectives for the nation. Washington, D.C.: U.S. Department of Health and Human Services, 1980: 15-20.
2. Institute of Medicine. Preventing low birthweight. Washington, D.C.: National Academy Press, 1985.
3. Armstrong RJ. A study of infant mortality from linked records by birth weight, period of gestation, and other variables, United States. Hyattsville, Maryland: National Center for Health Statistics, 1972; DHEW publication no. (HSM) 72-1055 (Vital and health statistics, series 20, no. 12).
4. Lee KS, Paneth N, Gartner LM, Pearlman MA, Gruss L. Neonatal mortality: an analysis of the recent improvement in the United States. *Am J Public Health* 1980;70:15-21.
5. Kleinman JC. Trends and variation in birth weight. Health United States 1981. Hyattsville, Maryland: U.S. Public Health Service, 1981; DHHS publication no. (PHS) 82-1232.
6. Williams RL, Chen PM. Identifying the sources of the recent decline in perinatal mortality rates in California. *N Engl J Med* 1982;306:207-14.
7. David RJ, Siegel E. Decline in neonatal mortality, 1968-1977: better babies or better care? *Pediatrics* 1983;71:531-40.
8. Guyer B, Wallach LA, Rosen SL. Birth-weight-standardized neonatal mortality rates and the prevention of low birth weight: how does Massachusetts compare with Sweden? *N Engl J Med* 1982;306:1230-3.
9. Ericson D, Bjerkedal T. Fetal and infant mortality in Norway and the United States. *JAMA* 1982;247:987-91.
10. National Center for Health Statistics. Proceedings of the International Collaborative Effort on Perinatal and Infant Mortality, Volume I. Hyattsville, Maryland: National Center for Health Statistics, 1985; DHHS publication no. (PHS) 85-1252.
11. Kleinman JC, Kessel SS. The recent decline in infant mortality. Health United States 1980. Hyattsville, Maryland: U.S. Public Health Service, 1980; DHHS publication no. (PHS) 81-1232.
12. Binkin NJ, Williams RL, Hogue CJR, Chen PM. Reducing black neonatal mortality: will improvement in birth weight be enough? *JAMA* 1985;253:327-5.
13. Alexander GR, Tompkins ME, Aitkruse JM, Hornung CA. Racial differences in the relation of birth weight and gestational age to neonatal mortality. *Public Health Rep* 1985;100:539-47.
14. CDC. Years of potential life lost attributable to low birthweight—United States, 1980 birth cohort. *MMWR* 1986;35:188-90, 195.

*Epidemiologic Notes and Reports***Ammonia Contamination in a Milk Processing Plant — Wisconsin**

On October 30, 1985, the Wisconsin Division of Health was informed by the state poison control center of two elementary schoolchildren who presented with severe burning of the mouth and throat, as well as nausea. The symptoms developed within 1 hour of drinking milk packaged in half-pint containers with an expiration date of 11/9 from a Wisconsin milk processor. An investigation into the source of the milk determined that, 5 days previously, the milk processor had noted an ammonia leak in one of its cooling chambers, where approximately 250,000 half-pint milk containers with an expiration date of 11/9 were stored. The liquid ammonia, used to cool the tanks and stored under pressure, had sprayed about the storage tank for an undetermined number of hours. On discovery of the leak, the milk processors destroyed those cartons with obvious external damage to the paper and polyethylene containers. After tasting and smelling approximately 75 of the remaining 250,000 cartons, they determined the milk was safe and began distributing the product throughout the state.

Thirty milk containers with expiration date 11/9 were retrieved from the index elementary school. An analysis of these 30 containers by the Wisconsin Department of Agriculture identified seven (23%) that were contaminated with ammonia at levels ranging from 530 ppm to 1,524 ppm (normal = less than 15 ppm). The pH levels of these contaminated samples ranged from 9.1 to 10.0 (normal milk pH = 6.7-6.9).

On the basis of the initial reports of adverse symptoms associated with ingestion of the implicated milk, a case definition was established: the development of symptoms of irritation of the gastrointestinal tract, including the mouth, throat, or stomach, with onset within 1 hour of ingesting milk with expiration date 11/9 from the implicated processing plant.

Over the next 24 hours, 268 schools that had received milk with expiration date 11/9 from the implicated plant were contacted and instructed to withdraw these milk products from their schools. Additionally, each school was requested to inform the Wisconsin Division of Health if any child developed symptoms consistent with the case definition.

This surveillance effort identified approximately 520 cartons of milk ingested before notification. Twenty children fulfilling the case definition were identified (attack rate 3.9%). None required hospitalization, and no deaths occurred. Schools were instructed to return the unused cartons to the milk processor, where they were destroyed. This is the first reported incident of acute ammonia poisoning associated with contaminated milk.

Reported by M Ziarnik, W Otto, T Sieger, MS, C Gannon, H Anderson, MD, Section of Environmental and Chronic Disease Epidemiology, Wisconsin Div of Health; Div of Field Svcs, Epidemiology Program Office, Div of Environmental Hazards and Health Effects, Center for Environmental Health, CDC.

Editorial Note: Ammonia (NH_3) is a colorless gas with a characteristic strong, pungent, penetrating odor. It is one of the more common industrial chemicals; an estimated 20-30 million tons are used per year in the United States (1,2). It is widely used in fertilizer manufacture; other uses include dye, synthetic fiber, plastic, and nitric acid production, as well as refrigeration (2). In its aqueous form as ammonium hydroxide (NH_4OH), it is extremely alkaline and can be highly caustic (2). Aqueous ammonia is 28% (280,000 ppm) ammonia, whereas household ammonia is 10% ammonia (100,000 ppm) (3). Mild to moderate ammonia exposures can produce headaches, salivation, burning of the throat, anosmia, nausea, vomiting, and substernal pain. Moderate doses may produce laryngospasm or bronchospasm (1).

The Occupational Safety and Health Administration standard for ammonia inhalation is 50 ppm as an 8-hour time-weighted average, but the National Institute for Occupational Safety and Health has recommended that 50 ppm be a 5-minute ceiling for exposure. The characteristic ammonia odor is readily perceptible below toxic levels. Most persons can

Ammonia Contamination -- Continued

detect an odor at 30 ppm, and eye and nose irritation become more severe as the levels increase to 50 ppm (4). The students involved in this incident were unable to smell the ammonia probably because the milk cartons were closed. The students first became aware of a problem when they felt burning in their throats.

Outbreaks of ammonia poisoning of milk, other beverages, or food have not been previously documented. The ammonium hydroxide apparently penetrated the milk cartons when the refrigerant tank leaked. Additional studies need to be done to determine how the ammonia contaminated the milk, and criteria need to be established to prevent contaminated milk from being distributed.

Recommendations for ammonia spills are as follows (1,5):

1. Following ammonia ingestion, a conscious person should immediately be given large quantities of water to dilute the ammonia.
2. Persons who have inhaled ammonia should be observed closely for visual disturbances, upper airway obstruction, and hypoxia.
3. The area of the ammonia spill or leak should be ventilated to disperse the gas. A flow of gaseous ammonia should be stopped, liquid ammonia should be allowed to vaporize.
4. Persons not wearing protective equipment and clothing should be restricted from areas of spills or leaks until the clean-up has been completed.

References

1. Rom WN, Barkman H. Respiratory irritants. In: Rom WN, ed. Environmental and occupational medicine. Boston: Little, Brown and Company, 1983:273-4.
2. Anderson HA. Irritant gases and fumes. In: Last JM, ed. Public health and preventive medicine, 11th ed. New York: Appleton-Century-Crofts, 1980:760-70.
3. Wands RC. Alkaline materials. In: Clayton GD, Clayton FE, eds. Patty's industrial hygiene and toxicology. Third revised edition. New York: John Wiley & Sons, 1981:3045-70.
4. National Institute for Occupational Safety and Health. Criteria for a recommended standard—occupational exposure to ammonia. Washington, D.C.: Public Health Service, CDC, 1974; publication no. (NIOSH) 74-136.
5. Occupational health guidelines for ammonia. U.S. Department of Health and Human Services, U.S. Department of Labor. September 1978.

*Current Trends***Rubella Vaccination during Pregnancy — United States, 1971-1985**

From January 1971 through December 1985, 1,142 pregnant women who received rubella vaccine either within 3 months before or 3 months after their presumed dates of conception were reported to CDC. These women were followed prospectively to determine the risk of fetal abnormalities following exposure to the vaccine.

Cendehill and HPV-77 Vaccines Before April 1979, data were collected on 538 women vaccinated during pregnancy with either Cendehill or HPV-77 rubella vaccine (1). The outcomes of conception—live birth, stillbirth, or spontaneous or induced abortion—were known for 143 (96%) of the 149 women known to be susceptible at the time of vaccination. Ninety-four (66%) of these 143 women carried their infants to term. All gave birth to infants free of defects compatible with congenital rubella syndrome (CRS) (2), although eight infants had serologic evidence of intrauterine infection (1,3). These eight children were all followed for at least 2 years, at which time all were growing and developing normally. The longest follow-up

Rubella Vaccination — Continued

is for a child who is now 10½ years old who had both an elevated rubella-specific immunoglobulin M (IgM) titer at birth and persistence of hemagglutination inhibition (HI) antibodies. Although he is still HI-antibody positive (he has not been vaccinated), he continues to grow and develop normally.

An additional 196 infants born to women who either were immune (22) or of unknown immune status (174) at the time of vaccination were also free of CRS-associated defects. Three other women (one susceptible, one immune, and one of unknown immune status) received unknown strains of rubella vaccine. All three delivered normal-appearing, healthy infants.

RA 27/3 Vaccine. Since licensure of the RA 27/3 rubella vaccine in January 1979, 614 pregnant women who received this vaccine during pregnancy have been reported to CDC (Table 3). Two hundred three (33%) of these 614 women were known to be susceptible at the time of vaccination. Outcomes of pregnancy are known for 191 (94%) of these susceptible women. Of the 191 women, 153 (80%) delivered 155 live infants. An additional 30 immune women and 319 women of unknown immune status delivered 350 live infants. All 505 infants were free of defects compatible with CRS.

(Continued on page 281)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	17th Week Ending			Cumulative, 17th Week Ending		
	Apr 26, 1986	Apr 27, 1985	Median, 1981-1985	Apr 26, 1986	Apr 27, 1985	Median, 1981-1985
Acquired immunodeficiency Syndrome (AIDS)	253	180	N	4,111	2,210	N
Aseptic meningitis	100	81	69	1,391	1,164	1,301
Encephalitis						
Primary (arthropod-borne & unsp.)	10	12	16	253	295	295
Post-infectious	1	5	2	26	45	31
Gonorrhea						
Civilian	14,655	15,252	16,983	260,725	254,401	289,192
Military	270	478	450	5,090	6,078	7,851
Hepatitis						
Type A	426	436	438	7,243	7,002	7,439
Type B	528	495	473	8,080	8,081	7,436
Non A, Non B	76	88	N	1,083	1,373	N
Unspecified	89	114	158	1,612	1,712	2,375
Legionellosis	15	17	N	181	201	N
Leptospirosis	7	7	6	93	137	73
Malaria	18	23	25	227	230	230
Measles						
Total*	185	185	134	2,040	1,001	1,001
Indigenous	176	140	N	1,976	816	N
Imported	9	45	N	64	185	N
Meningococcal infections						
Total	54	61	70	1,050	1,012	1,185
Civilian	54	60	70	1,048	1,009	1,183
Military		1			3	5
Mumps	67	80	110	1,103	1,358	1,414
Pertussis	61	26	33	708	495	495
Rubella (German measles)	10	13	58	172	135	396
Syphilis (Primary & Secondary)						
Civilian	532	574	586	7,971	8,125	9,838
Military	2	9	11	72	67	122
Toxic Shock syndrome	11	9	N	123	128	N
Tuberculosis	431	532	499	6,280	6,364	7,157
Tularemia		1	1	19	26	32
Typhoid fever	7	6	7	72	85	121
Typhus fever, tick-borne (RMSF)	8	10	10	28	34	36
Rabies, animal	140	151	151	1,664	1,567	1,885

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986	Cum 1985
Anthrax		
Foodborne (Mich 1)	4	15
Infant (Md 1, Ariz 1, Calif 2)	20	
Other		
Brucellosis (Nebr 1)	17	
Cholera		
Congenital rubella syndrome		
Congenital syphilis, ages < 1 year	11	
Diphtheria		
Leptospirosis (NC 1)		
Plague		
Polioomyelitis, Paralytic		
Psittacosis		
Rabies, human		
Tetanus		
Trichinosis		
Typhus fever, flea-borne (endemic, murine)		

*Four of the 185 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
April 26, 1986 and April 27, 1985 (17th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
					Cum 1986	1986						
UNITED STATES	4,111	100	253	26	260,725	254,401	426	528	76	89	15	93
NEW ENGLAND	171	4	9	1	6,022	7,865	7	25	3	4	1	1
Maine	9	-	-	-	306	323	-	-	1	-	-	-
N.H.	7	-	2	-	162	163	-	-	-	-	1	-
Vt.	2	1	2	1	94	81	1	-	1	-	-	-
Mass.	92	1	2	-	2,601	2,893	2	17	-	3	-	-
R.I.	9	-	-	-	567	571	1	3	-	1	-	-
Conn.	52	2	3	-	2,292	3,834	3	5	1	-	-	-
MID ATLANTIC	1,567	9	43	-	46,216	35,689	27	44	6	21	-	9
Upstate N.Y.	122	2	15	-	5,236	5,053	3	4	1	3	-	1
N.Y. City	1,107	-	10	-	27,015	16,159	2	2	-	17	-	7
N.J.	251	6	5	-	6,154	7,048	6	17	3	-	-	-
Pa.	87	1	13	-	7,811	7,429	16	21	2	1	-	1
E N CENTRAL	215	10	49	4	30,177	36,038	16	42	1	3	3	4
Ohio	30	3	15	2	8,812	9,457	6	9	-	2	2	-
Ind.	25	2	5	2	4,059	3,326	3	3	-	-	-	-
Ill.	106	-	7	-	4,638	9,726	-	-	-	-	-	3
Mich.	49	5	21	-	10,797	10,699	7	30	1	1	1	1
Wis.	5	-	1	-	1,871	2,830	-	-	-	-	-	-
W N CENTRAL	78	2	7	5	11,778	13,060	14	15	2	-	1	1
Mon.	37	-	4	-	1,787	1,904	7	5	1	-	-	1
Iowa	8	-	3	-	1,166	1,386	-	2	-	-	-	-
Mo.	19	-	-	-	5,770	6,004	3	5	1	-	-	-
N. Dak.	2	-	-	-	112	93	-	-	-	-	-	-
S. Dak.	1	1	-	-	235	239	1	-	-	-	1	-
Nebr.	3	-	-	-	867	1,304	-	2	-	-	-	-
Kans.	8	1	-	5	1,841	2,130	3	1	-	-	-	-
S. ATLANTIC	555	26	44	11	63,670	54,830	46	100	16	13	8	1
Del.	10	1	3	-	1,098	1,202	1	1	-	-	-	-
Md.	59	5	10	-	7,901	8,745	12	13	1	2	-	-
D.C.	78	-	-	-	5,271	4,655	-	11	-	-	-	-
Va.	59	5	17	-	5,464	5,867	1	7	2	1	1	1
W. Va.	2	-	6	-	830	774	2	3	2	-	-	-
N.C.	24	3	7	1	11,225	10,179	2	12	2	2	2	-
S.C.	15	1	-	-	6,081	6,911	-	19	-	1	2	-
Ga.	64	2	-	-	6,682	-	1	8	1	1	1	-
Fla.	244	9	1	10	18,818	16,497	27	26	8	6	2	-
E S CENTRAL	39	4	19	1	22,367	22,242	14	45	4	5	1	-
Ky.	12	2	8	-	2,623	2,449	9	8	-	3	-	-
Tenn.	17	2	1	1	8,815	8,792	3	19	-	2	-	-
Ala.	6	-	9	-	6,266	7,023	2	14	4	-	1	-
Miss.	4	-	1	-	4,673	3,978	-	4	-	-	-	-
W S CENTRAL	344	13	20	1	33,371	35,834	42	56	7	21	-	6
Ark.	10	-	-	-	3,170	3,440	-	2	-	2	-	-
La.	51	-	2	-	5,952	7,340	1	2	2	-	-	-
Okla.	16	-	4	-	3,956	3,698	9	7	1	1	-	-
Tex.	267	13	14	1	20,393	21,356	32	45	4	18	-	6
MOUNTAIN	86	6	12	1	8,588	8,436	43	35	8	1	-	7
Mont.	2	-	-	1	220	255	1	1	-	-	-	-
Idaho	1	-	-	-	254	278	1	-	-	-	-	-
Wyo.	2	-	2	-	195	211	1	1	1	-	-	-
Colo.	37	3	2	-	2,178	2,571	4	6	-	-	-	3
N. Mex.	6	1	1	-	847	991	7	4	-	-	-	-
Ariz.	22	2	5	-	2,745	2,462	20	19	6	1	-	2
Utah	6	-	1	-	340	351	1	1	-	-	-	-
Nev.	10	-	1	-	1,803	1,317	8	3	1	-	-	2
PACIFIC	1,066	26	50	2	38,536	40,407	217	166	29	21	1	64
Wash.	34	3	5	-	2,854	2,870	11	15	4	1	-	7
Oreg.	21	-	-	-	1,503	2,036	25	10	6	-	-	-
Calif.	983	23	43	2	32,761	33,886	181	136	18	20	1	48
Alaska	8	-	2	-	1,000	987	-	3	1	-	-	-
Hawaii	10	-	-	-	418	628	-	2	-	-	-	9
Guam	-	-	-	-	32	59	1	2	-	-	-	1
P.R.	31	1	2	-	748	1,263	-	6	-	14	-	-
V.I.	-	0	-	-	71	151	0	0	0	0	0	-
Pac. Trust Terr.	-	-	-	-	57	322	14	-	-	2	-	-
Amer. Samoa	-	-	-	-	13	-	4	-	-	-	-	-

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 26, 1986 and April 27, 1985 (17th Week)

Reporting Area	Malaria	Measles (Rubeola)				Meningococcal infections	Mumps		Pertussis			Rubella			
		Indigenous		Imported *			Total	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		Cum 1986	1986	Cum 1986	1986										
UNITED STATES	227	176	1,976	9	64	1,001	1,050	67	1,103	61	708	495	10	172	135
NEW ENGLAND	13	6	16	-	-	69	77	2	34	4	42	23	-	1	5
Maine	-	-	-	-	-	-	16	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	1	10	-	14	13	-	1	2
Vt.	1	-	-	-	-	-	11	-	-	1	2	2	-	-	-
Mass.	8	6	15	-	-	68	16	-	1	-	9	3	-	-	-
R.I.	1	-	1	-	-	-	11	1	5	-	1	1	-	-	-
Conn.	3	-	-	-	-	1	20	-	18	3	14	2	-	-	-
MID ATLANTIC	26	60	785	-	3	66	170	1	61	1	83	57	-	23	35
Upstate N.Y.	4	-	2	-	2	30	49	-	25	1	57	32	-	15	8
N.Y. City	8	10	101	-	1	23	36	-	5	-	3	8	-	5	10
N.J.	3	50	682	-	-	7	27	1	15	-	5	1	-	3	5
Pa.	11	-	-	-	-	6	58	-	16	-	18	16	-	-	12
E.N. CENTRAL	6	7	211	-	2	350	126	20	529	1	138	72	-	5	11
Ohio	1	-	-	-	-	38	56	4	57	1	63	13	-	-	-
Ind.	-	-	-	-	-	1	13	-	15	-	16	11	-	-	-
Ill.	3	7	125	-	-	216	27	-	276	-	16	12	-	4	5
Mich.	2	-	-	-	-	48	30	16	90	-	16	7	-	-	5
Wis.	-	-	86	-	2	47	-	-	91	-	27	29	-	1	1
W.N. CENTRAL	6	3	86	1	3	5	59	8	55	-	33	44	1	7	8
Minn.	2	-	1	-	-	2	12	-	1	-	16	11	-	-	-
Iowa	1	-	-	-	1	-	6	2	10	-	5	3	-	-	-
Mo.	2	2	2	-	1	2	22	4	13	-	4	8	-	1	-
N. Dak.	-	-	-	-	-	-	-	-	2	-	2	6	-	-	1
S. Dak.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Nebr.	1	-	-	-	-	-	7	-	-	-	-	1	-	-	-
Kans.	-	1	83	1	1	1	11	2	28	-	6	15	1	6	7
S. ATLANTIC	29	23	284	1	8	115	224	5	83	40	213	120	-	6	12
Del.	-	-	1	-	-	-	1	-	-	34	102	-	-	-	-
Md.	3	2	11	1	5	12	29	2	6	1	24	41	-	-	1
D.C.	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
Va.	6	1	3	-	1	12	40	3	15	-	9	3	-	-	-
W. Va.	-	-	2	-	-	3	3	-	26	-	4	-	-	-	2
N.C.	3	-	-	-	-	-	37	-	7	-	15	7	-	-	-
S.C.	2	19	256	-	-	1	24	-	11	1	3	-	-	-	2
Ga.	3	-	-	-	1	8	32	-	5	4	49	46	-	-	-
Fla.	12	-	11	-	1	78	56	-	13	-	7	23	-	6	7
E.S. CENTRAL	5	-	1	-	-	-	58	1	14	-	15	4	-	1	1
Ky.	2	-	-	-	-	-	10	-	2	-	1	1	-	1	1
Tenn.	-	-	1	-	-	-	26	1	10	-	5	1	-	-	-
Ala.	2	-	-	-	-	-	15	-	1	-	9	2	-	-	-
Miss.	1	-	-	-	-	-	7	-	1	-	-	-	-	-	-
W.S. CENTRAL	17	9	304	4	22	48	78	9	84	1	26	57	-	35	13
Ark.	-	-	273	-	-	-	10	-	6	-	2	9	-	-	1
La.	4	-	-	-	-	1	9	-	-	-	3	2	-	-	-
Okl.	2	-	-	2	4	-	12	N	N	1	21	46	-	-	-
Tex.	11	9	31	2	18	47	47	9	78	-	-	-	-	35	12
MOUNTAIN	6	21	115	2	10	255	42	16	125	4	86	22	1	1	3
Mont.	-	-	-	-	1	129	4	1	3	1	1	3	-	-	-
Idaho	1	-	-	-	-	4	1	-	2	-	26	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Colo.	1	-	-	2	5	5	8	-	6	2	18	8	-	-	-
N. Mex.	-	1	16	-	4	2	4	N	N	1	9	3	-	-	1
Ariz.	2	20	99	-	-	115	13	15	110	-	23	4	1	1	1
Utah	1	-	-	-	-	-	4	-	1	-	9	4	-	-	-
Nev.	1	-	-	-	-	-	6	-	3	-	-	-	-	-	-
PACIFIC	119	47	174	1	16	93	216	5	118	10	72	96	8	93	47
Wash.	10	12	35	-	7	1	30	-	5	1	26	15	-	1	-
Oreg.	9	-	-	-	2	3	15	N	N	-	5	16	-	-	1
Calif.	100	35	120	1	6	82	163	5	103	9	38	60	8	91	34
Alaska	-	-	-	-	-	-	7	-	4	-	1	2	-	-	-
Hawaii	-	-	19	-	1	7	1	-	6	-	2	3	-	1	12
Guam	1	-	3	-	-	10	-	-	2	-	-	-	-	2	1
P.R.	3	-	-	-	-	40	2	-	15	1	4	1	-	58	6
V.I.	-	U	-	U	-	9	-	U	7	U	-	-	U	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only. Imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable I: International O: Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
April 26, 1986 and April 27, 1985 (17th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	7,971	8,125	11	6,280	6,364	19	72	28	1,664
NEW ENGLAND	158	183	-	195	222	-	3	1	1
Maine	10	-	-	18	16	-	-	-	-
N.H.	6	3	-	4	7	-	-	-	-
Vt.	6	-	-	7	3	-	-	-	-
Mass.	7	96	-	103	132	-	2	1	-
R.I.	10	6	-	11	21	-	-	-	1
Conn.	51	71	-	52	43	-	1	-	-
MID ATLANTIC	1,140	1,078	-	1,244	1,190	-	7	1	151
Upstate N.Y.	62	77	-	197	189	-	1	1	24
N.Y. City	636	671	-	610	620	-	4	-	1
N.J.	224	229	-	239	116	-	2	-	-
Pa.	218	101	-	198	265	-	-	-	126
S. CENTRAL	210	378	1	796	772	-	4	2	30
Ohio	45	39	-	122	140	-	-	2	2
Ind.	41	32	-	96	90	-	-	-	7
Ill.	58	192	1	340	343	-	-	-	10
Mich.	46	96	-	193	156	-	3	-	4
Wis.	20	19	-	45	43	-	1	-	7
W. CENTRAL	80	86	1	173	165	6	3	1	227
Minn.	12	23	-	45	33	-	1	-	26
Iowa	5	12	1	14	26	1	-	-	54
Mo.	45	32	-	85	74	5	2	-	22
N. Dak.	2	-	-	2	2	-	-	-	58
S. Dak.	1	4	-	6	7	-	-	-	41
Nebr.	8	6	-	4	7	-	-	-	5
Kans.	7	9	-	17	16	-	-	1	21
S. ATLANTIC	2,274	2,027	6	1,251	1,279	4	7	7	393
Del.	12	16	-	13	13	-	-	-	-
Md.	155	142	2	92	110	1	1	-	231
D.C.	116	118	-	51	60	-	-	-	-
Va.	147	111	1	120	105	1	2	1	73
W. Va.	7	4	-	43	28	-	-	-	9
N.C.	176	237	2	183	162	1	2	2	1
S.C.	235	253	1	139	150	-	-	3	11
Ga.	256	-	-	163	185	1	-	1	47
Fla.	1,170	1,146	-	447	466	-	2	-	21
E. S. CENTRAL	584	742	-	570	568	3	-	7	104
Ky.	25	31	-	150	112	2	-	1	25
Tenn.	223	207	-	154	170	1	-	1	55
Ala.	194	236	-	182	196	-	-	2	24
Miss.	142	268	-	84	90	-	-	3	-
W. S. CENTRAL	1,725	2,062	-	757	715	5	3	8	247
Ark.	88	105	-	90	75	3	-	-	51
La.	293	352	-	145	119	-	-	-	6
Okla.	51	60	-	65	75	2	1	6	20
Tex.	1,293	1,545	-	457	446	-	2	2	170
MOUNTAIN	206	259	2	117	149	-	2	1	293
Mont.	2	1	-	5	19	-	-	-	110
Idaho	1	2	-	5	4	-	-	-	-
Wyo.	-	5	-	-	3	-	-	1	129
Colo.	63	62	-	1	18	-	-	-	-
N. Mex.	26	36	-	32	27	-	-	-	3
Ariz.	90	136	1	57	67	-	1	-	51
Utah	4	3	-	4	5	-	1	-	-
Nev.	20	4	1	13	6	-	-	-	-
PACIFIC	1,594	1,310	1	1,177	1,304	1	43	-	218
Wash.	27	51	-	67	64	-	2	-	-
Oreg.	33	31	-	44	44	-	-	-	-
Calif.	1,517	1,201	1	991	1,087	-	39	-	212
Alaska	-	1	-	17	50	1	-	-	6
Hawaii	17	26	-	58	59	-	2	-	-
Guam	1	2	-	-	12	-	-	-	-
P.R.	284	302	-	81	99	-	2	-	15
V.I.	-	1	U	1	1	-	-	-	-
Pac. Trust Terr.	96	22	-	9	26	-	14	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
April 26, 1986 (17th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	612	435	122	28	16	11	45	S. ATLANTIC	1,255	792	290	104	37	32	66
Boston, Mass.	156	99	37	12	7	1	16	Atlanta, Ga.	146	83	40	12	4	7	4
Bridgeport, Conn.	35	25	7	3	—	—	1	Baltimore, Md.	226	148	49	17	9	3	7
Cambridge, Mass.	27	25	1	1	—	—	2	Charlotte, N.C.	61	33	14	9	2	3	7
Fall River, Mass.	33	27	4	—	2	—	1	Jacksonville, Fla.	129	84	28	7	7	3	10
Hartford, Conn.	56	39	11	3	2	1	4	Miami, Fla.	108	59	38	9	1	1	2
Lowell, Mass.	15	13	1	1	—	—	—	Norfolk, Va.	38	19	13	5	—	1	6
Lynn, Mass.	15	12	3	—	—	—	1	Richmond, Va.	78	49	18	6	3	2	2
New Bedford, Mass.	21	17	3	—	—	1	1	Savannah, Ga.	54	39	10	2	2	1	10
New Haven, Conn.	48	27	11	4	4	2	3	St. Petersburg, Fla.	116	95	14	5	—	2	9
Providence, R.I.	69	52	15	—	—	—	4	Tampa, Fla.	62	47	10	2	1	2	3
Somerville, Mass.	5	3	2	—	—	—	—	Washington, D.C.	208	122	46	27	6	7	6
Springfield, Mass.	47	29	13	2	—	—	6	Wilmington, Del.	29	14	10	3	2	—	—
Waterbury, Conn.	35	30	4	1	—	—	2								
Worcester, Mass.	50	37	10	1	1	1	4								
MID ATLANTIC	2,594	1,703	546	232	51	60	122	E. S. CENTRAL	697	425	177	49	25	21	32
Albany, N.Y.	48	29	13	2	1	3	2	Birmingham, Ala.	125	79	36	6	2	2	1
Allentown, Pa.	15	13	2	—	—	—	—	Chattanooga, Tenn.	86	43	14	4	1	4	6
Buffalo, N.Y.	111	67	30	9	3	2	4	Knoxville, Tenn.	101	57	30	5	6	3	5
Camden, N.J.	32	21	8	—	—	—	3	Louisville, Ky.	102	62	24	9	4	3	5
Elizabeth, N.J.	26	16	6	4	—	—	2	Memphis, Tenn.	98	59	17	12	6	5	2
Erie, Pa.	49	33	14	1	—	—	1	Mobile, Ala.	70	44	20	5	1	—	1
Jersey City, N.J.	53	42	5	3	2	1	1	Montgomery, Ala.	30	16	10	10	2	2	4
N.Y. City, N.Y.	1,320	838	285	152	32	33	52	Nashville, Tenn.	105	65	26	8	4	2	4
Newark, N.J.	56	39	17	16	—	—	2								
Paterson, N.J.	30	18	10	2	—	—	5	W.S. CENTRAL	1,356	771	328	129	74	53	55
Philadelphia, Pa.	392	262	93	22	6	9	30	Austin, Tex.	52	28	13	6	3	2	4
Pittsburgh, Pa.	68	47	13	5	2	1	2	Baton Rouge, La.	31	22	5	—	—	4	3
Reading, Pa.	38	27	8	2	1	—	5	Corpus Christi, Tex.	32	21	6	2	1	2	3
Rochester, N.Y.	136	103	23	4	2	4	8	Dallas, Tex.	220	121	52	24	13	10	4
Schenectady, N.Y.	72	16	2	3	1	—	1	El Paso, Tex.	69	38	17	3	6	5	4
Soranton, Pa.	39	27	11	—	—	—	1	Fort Worth, Tex.	89	50	23	8	6	2	3
Syracuse, N.Y.	81	66	12	3	—	—	4	Houston, Tex.	433	237	102	56	23	15	12
Trenton, N.J.	31	21	7	2	—	—	1	Little Rock, Ark.	32	21	7	7	1	1	2
Utica, N.Y.	16	11	4	1	—	—	2	New Orleans, La.	121	68	37	7	5	3	—
Yonkers, N.Y.	31	27	3	1	—	—	2	San Antonio, Tex.	133	76	30	9	12	6	11
								Shreveport, La.	49	32	14	1	1	1	3
								Tulsa, Okla.	90	57	22	6	3	2	6
E.N. CENTRAL	2,346	1,534	516	216	70	70	105	MOUNTAIN	694	432	143	71	23	24	43
Akron, Ohio	63	43	16	1	1	2	3	Albuquerque, N.Mex.	97	55	19	10	8	4	4
Canton, Ohio	35	29	5	—	—	—	1	Colorado Springs, Colo.	39	26	8	4	1	1	8
Chicago, Ill.	561	353	127	47	11	23	16	Denver, Colo.	121	65	32	10	4	10	3
Cincinnati, Ohio	169	113	39	7	6	4	22	Las Vegas, Nev.	98	55	28	12	2	1	9
Cleveland, Ohio	190	116	47	10	11	6	6	Ogden, Utah	20	15	5	—	—	—	1
Columbus, Ohio	173	99	52	10	7	5	2	Phoenix, Ariz.	135	86	22	20	4	3	3
Dayton, Ohio	109	73	22	8	3	3	2	Pueblo, Colo.	26	19	6	1	—	—	4
Detroit, Mich.	234	150	50	18	11	5	8	Salt Lake City, Utah	49	30	8	5	2	4	—
Evansville, Ind.	40	31	7	—	—	—	1	Tucson, Ariz.	109	81	15	9	3	1	11
For. Wayne, Ind.	53	34	15	2	1	1	6								
Gary, Ind.	13	9	2	—	—	—	—	PACIFIC	1,979	1,313	366	179	62	51	102
Grand Rapids, Mich.	69	46	13	4	3	3	2	Berkeley, Calif.	21	16	3	—	—	1	1
Indianapolis, Ind.	148	95	37	12	—	—	4	Fresno, Calif.	80	50	17	4	3	6	6
Madison, Wis.	43	28	8	1	3	3	4	Glendale, Calif.	19	14	4	—	—	1	3
Milwaukee, Wis.	167	125	28	8	4	2	6	Honolulu, Hawaii	59	38	12	6	2	1	3
Peoria, Ill.	44	30	7	4	2	1	4	Long Beach, Calif.	79	52	14	9	2	2	8
Rockford, Ill.	36	23	8	3	1	1	4	Los Angeles, Calif.	863	412	136	74	26	8	26
South Bend, Ind.	39	24	6	5	1	3	1	Oakland, Calif.	42	31	5	1	2	3	1
Toledo, Ohio	97	66	17	10	3	1	9	Pasadena, Calif.	31	24	5	1	—	1	2
Youngstown, Ohio	63	47	10	4	—	—	2	Portland, Ore.	136	96	22	13	2	3	9
								Sacramento, Calif.	137	92	21	15	2	7	8
W.N. CENTRAL	740	484	155	51	23	27	28	San Diego, Calif.	132	88	26	9	7	3	13
Des Moines, Iowa	51	39	10	1	—	—	1	San Francisco, Calif.	155	100	26	19	2	8	6
Duluth, Minn.	15	11	4	—	—	—	—	San Jose, Calif.	176	121	34	13	4	3	7
Kansas City, Kans.	44	26	13	3	1	1	1	Seattle, Wash.	147	104	23	10	6	4	2
Kansas City, Mo.	110	71	26	5	3	5	4	Spokane, Wash.	53	41	8	3	1	—	6
Lincoln, Nebr.	44	32	7	3	—	1	3	Tacoma, Wash.	49	34	11	2	1	1	1
Minneapolis, Minn.	79	56	14	5	1	3	2								
Omaha, Nebr.	88	56	24	3	3	2	9								
St. Louis, Mo.	154	91	20	22	13	6	2								
St. Paul, Minn.	65	45	16	—	1	3	1								
Wichita, Kans.	90	56	21	9	1	3	6								
TOTAL	12,273	7,889	2,643	999	381	349	598								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Rubella Vaccination — Continued

The dates of vaccination and estimated dates of confinement were known for all 153 susceptible women who had full-term pregnancies (Figure 3). Fifty-three (35%) women were vaccinated within 1 week before to 4 weeks after conception, the period of presumed highest risk.

Serologic evaluations (rubella HI and specific IgM titers on cord or neonatal blood specimens) were performed on 121 (78%) of the 155 infants whose mothers were susceptible. One normal-appearing infant had a rubella-specific IgM antibody titer of 1:8 in cord blood and a corresponding HI titer of 1:128. The maternal titer was also 1:128. Retesting of cord blood and testing of a 2-month follow-up specimen run simultaneously showed a decline in HI antibody over the 2-month period from a titer of 1:64 to 1:16, suggesting that subclinical infection may not have occurred, since this pattern of decrease would be expected in maternally

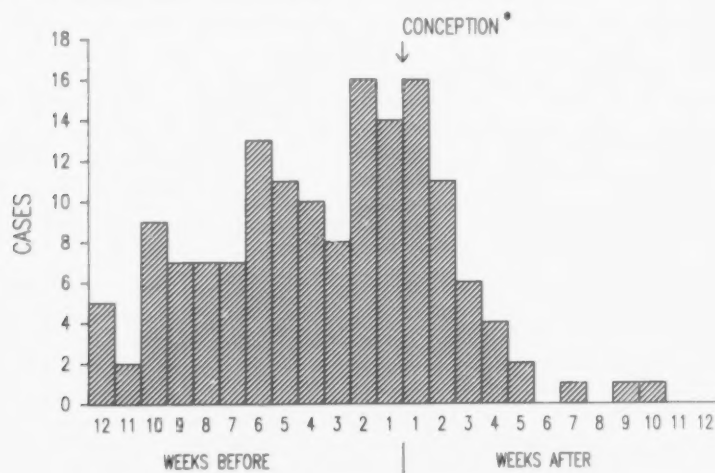
TABLE 3. Pregnancy outcomes for 614 recipients of RA 27/3 vaccine — United States, January 1979 through December 1985

Prevaccination immunity status	Total women	Live births	Spontaneous abortions and stillbirths	Induced abortions	Outcome unknown
Susceptible	203	155*	8	30	12
Immune	32	30	1	0	1
Unknown	379	320†	8	24	28
Total	614	505	17	54	41

*Includes two twin births.

†Includes one twin birth.

FIGURE 3. Interval between receipt of rubella RA 27/3 vaccine and estimated date of conception, in weeks, among 153 susceptible women with live births — United States, January 1979 through December 1985



*Two cases not included on estimated day of conception.

Rubella Vaccination — Continued

derived antibody. The infant had no evidence of defects compatible with CRS at birth or at the 18-month and 29-month follow-up examinations. Further follow-up sera could not be obtained to document persistence or disappearance of HI antibodies.

Blood studies were also obtained on 156 of the 320 infants born to mothers whose immune status was unknown at the time of vaccination. Subclinical infection was documented in two infants. One infant had a rubella-specific IgM antibody titer of 1:16 in cord blood. Both mother and infant had HI titers of 1:32 at the time of birth; the infant had a persistent HI titer of 1:32 at 4 months of age. This infant had no evidence of defects compatible with CRS at birth or at the 10-month and 17-month examinations. A serum specimen was not obtained at the follow-up visits. The second infant had a persistent HI titer of 1:8 at 3 months of age, suggesting that there had been subclinical infection. This infant was diagnosed as normal at the 3-month follow-up visit.

While none of the 155 infants born to susceptible women had defects compatible with CRS, two infants did have asymptomatic glandular hypospadias. However, both had negative rubella-specific IgM titers (less than 1:4) in cord blood at birth. A 6-month follow-up serum was available for one of the infants; he had a rubella HI antibody titer of less than 1:8 (i.e., a negative titer).

Reported by Surveillance, Investigations, and Research Br. Div. of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: Since 1971, CDC has maintained a register to monitor and quantitate the risks to the fetus following exposure to attenuated rubella vaccine virus. Data are obtained through reports from physicians and from state and local health departments, as well as directly from women vaccinated either within 3 months before or 3 months after conception. The patients are followed prospectively to determine the outcome of pregnancy. In 1979, when RA 27/3 rubella vaccine replaced the other rubella vaccines, concern was raised that it might have greater fetotropic and teratogenic potential than earlier vaccines. As with the other vaccines, data collected so far show no evidence that the RA 27/3 rubella vaccine can cause defects compatible with CRS.

Fifty-three (35%) of the 153 susceptible mothers were vaccinated with RA 27/3 vaccine during the presumed highest-risk period for viremia and fetal defects (1 week before to 4 weeks after conception) (4,5). None of their infants were born with CRS; therefore, the observed risk of CRS following rubella vaccination continues to be zero (Table 4). The theoretical maximum risk for the occurrence of CRS in this group of 155 children, however, based on the 95% confidence limits of the binomial distribution, could be as high as 2.4%. (If the 95 infants exposed to other rubella vaccines are included, the maximum theoretical risk is 1.5%.) This overall maximum risk remains far less than the 20% or greater risk of CRS associated with maternal infection with wild rubella virus during the first trimester of pregnancy (3) and is no greater than the 2%-3% rate of major birth defects in the absence of exposure to rubella vaccine (6).

These favorable data are consistent with the experiences in the Federal Republic of Germany and the United Kingdom (7,8). In neither country has the vaccine been associated with the occurrence of CRS among infants born to susceptible mothers who had been vaccinated. In Germany, 98 susceptible women vaccinated with either the Cendehill or RA 27/3 strain of vaccine gave birth to infants with no evidence of CRS. In the United Kingdom, one of 42 infants born to vaccinated mothers (rubella-immune status not specified) had pulmonic valve atresia but had no rubella-specific IgM or other serologic evidence of rubella infection.

The occurrence of any congenital defect following maternal vaccination deserves careful analysis and follow-up. In the U.S. series, two infants born to susceptible mothers had asymptomatic glandular hypospadias. While hypospadias has been noted in CRS cases (9,10),

Rubella Vaccination — Continued

there are no data to suggest that glandular hypospadias should be considered a CRS-associated defect. In any case, neither of the two infants in question had serologic evidence of rubella virus infection. Ten other infants born to mothers of unknown immune status (eight) or known to be immune (two) at the time of vaccination had some type of defect (11). However, none of the defects were compatible with CRS, and serologic testing, when done, did not confirm rubella virus infection.

While no CRS-like defects have been noted, it is clear that rubella vaccine viruses, including the RA 27/3 strain, can cross the placenta and infect the fetus. Approximately 1%-2% of infants born to susceptible vaccinees had serologic evidence of subclinical infection, regardless of vaccine strain (3). On the other hand, while the rubella virus isolation rate from the products of conception for the RA 27/3 vaccine is only 3% (1/34), the rate of virus isolation for Cendehill and HPV-77 vaccines is 20% (17/85) (3). These data indicate that the risk of placental or fetal infection from RA 27/3 vaccine is minimal.

In view of the data collected through 1985, the Immunization Practices Advisory Committee (ACIP) continues to state that: (1) pregnancy remains a contraindication to rubella vaccination because of the theoretical, albeit small, risk of CRS; (2) reasonable precautions should be taken to preclude vaccination of pregnant women, including asking women if they are pregnant, excluding those who say they are, and explaining the theoretical risks to the others; and (3) if vaccination does occur within 3 months before or after conception, the risk of CRS is so small as to be negligible, thus, rubella vaccination of a pregnant woman should not ordinarily be a reason to consider interruption of pregnancy. The patient and her physician, however, should make the final decision (12).

CDC encourages reporting of cases to its register. Only cases involving women known to have been susceptible at the time of vaccination, by virtue of a negative serology obtained within the preceding year, should be reported to the Division of Immunization (telephone [404] 329-1870). Although laboratory services for culture of placental and fetal tissue are no longer routinely available at CDC, services for serologic determination continue to be available for susceptible cases that are reported.

References

1. CDC. Rubella vaccination during pregnancy—United States, 1971-1981. *MMWR* 1982;31:477-81.
2. CDC. Rubella and congenital rubella—United States, 1983. *MMWR* 1984;33:237-42, 247.
3. Preblud SR, Stetler HC, Frank JA Jr, Greaves WL, Hinman AR, Herrmann KL. Fetal risk associated with rubella vaccine. *JAMA* 1981;246:1413-7.
4. O'Shea S, Parsons G, Best JM, Banatvala JE, Balfour HH Jr. How well do low levels of rubella antibody protect? [Letter]. *Lancet* 1981;ii:1284.
5. Balfour HH Jr, Groth KE, Edelman CK, Amren DP, Best JM, Banatvala JE. Rubella viraemia and antibody responses after rubella vaccination and reimmunization. *Lancet* 1981;i:1078-80.

TABLE 4. Maximum theoretical risks of congenital rubella syndrome (CRS) following rubella vaccination, by vaccine strain — United States, 1971-1985*

Vaccine strain	Susceptible vaccinees	Normal live births	Risk of CRS	
			Observed	Theoretical
RA 27/3	153	155 [†]	0	0%-2.4%
Cendehill or HPV-77	94	94	0	0%-3.8%
Unknown	1	1	0	—
Total	248	250	0	0%-1.5%

*Through December 31, 1985. No women entered in the register after 1980 were vaccinated with Cendehill or HPV-77 vaccine.

[†]Includes two twin births.

Rubella Vaccination — Continued

6. CDC. Congenital malformations surveillance report, January 1981–December 1983. Issued September 1985.
7. Enders G. Rubella antibody titers in vaccinated and nonvaccinated women and results of vaccination during pregnancy. *Rev Infect Dis* 1985; 7(suppl 1): S103–7.
8. Tobin JO, Sheppard S, Smithells RW, Milton A, Noah N, Reid D. Rubella in the United Kingdom, 1970–1983. *Rev Infect Dis* 1985; 7(suppl 1): S47–S52.
9. Desmond MM, Montgomery JR, Melnick JL, Cochran GG, Verniaud W. Congenital rubella encephalitis: Effects on growth and early development. *Am J Dis Child* 1969; 118: 30–1.
10. Zinnig PR. Congenital rubella: the teenage years. *Pediatr Annals* 1977; 6: 762–70.
11. CDC. Rubella vaccination during pregnancy—United States, 1971–1982. *MMWR* 1983; 32: 429–32, 437.
12. ACIP. Rubella prevention. *MMWR* 1984; 33: 301–10, 315–8.

Human T-Lymphotropic Virus Type III/ Lymphadenopathy-Associated Virus Antibody Testing at Alternate Sites

On March 2, 1985, an enzyme-linked immunosorbent assay (ELISA) test to detect antibodies to human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) was licensed by the U.S. Food and Drug Administration to screen blood and plasma collected for transfusion or manufactured into other products. Since it was recognized that many individuals in groups at high risk for AIDS might want testing to determine their antibody status, federal funds for alternate testing sites were made available so that HTLV-III/LAV antibody tests could be obtained free of charge outside the blood-bank setting. A primary goal was to protect the nation's blood supply by limiting the potential for donation of false-negative units. The alternate sites were also needed to ensure that individuals wishing to be tested would receive appropriate pretest counseling, post-test counseling, and referral for medical evaluation, if indicated.

Cooperative agreements between CDC and 55 state and local health departments began April 26, 1985. The cooperative agreements were for a 90-day period, since they were intended to defray start-up costs only. Most agreements were subsequently extended for an additional 90 days without additional funding at the request of the individual health departments. Preliminary data on the activities supported by the cooperative agreements were reported to CDC in September 1985 and January 1986. As of September 6, 1985, at least one alternate testing site had been established by 52 of the 55 project areas; an estimated 518 sites had been established nationwide; and 21,200 persons had been tested.

Activities increased substantially during the last quarter of 1985. By December 31, 1985, 874 testing sites had been established in 53 project areas (Table 5). This total included 275 sites in New York City located in private physicians' offices. Nationwide, 79,100 persons had been tested. Pretest counseling had been provided to 93,900 persons, and post-test counseling, to 55,500. A total of 17.3% of the individuals tested at these sites had repeatedly reactive ELISA tests. No relationship was noted between the number of acquired immunodeficiency syndrome (AIDS) cases reported in a particular project area and the number of tests performed at alternate sites (Table 6).

HTLV-III/LAV - Continued

TABLE 5. Alternate testing site activities - United States, 1985

Area	Testing sites	Pretest sessions	Persons tested	Post-test sessions	Percent positive*
UNITED STATES	874	93,917	79,083	55,499	17.3
New England					
Maine	4	42	42	42	9.5
N.H.	1	73	429	53	9.8
Vt.	19	0	110	110	2.7
Mass.	7	1,400	600	450	11.8
R.I.	1	308	695	214	10.6
Conn.	0	0	0	0	—
Mid-Atlantic					
Upstate N.Y.	8	2,376	1,697	1,254	9.0
N.Y. City	275	7,042	2,032	2,032	30.7
N.J.	4	1,844	1,818	246	13.5
Pa.	7	2,204	1,608	1,333	10.1
E.N. Central					
Ohio	7	3,174	2,780	2,500	17.2
Ind.	9	3,338	827	756	18.1
Ill.	3	280	221	0	13.1
Mich.	5	2,633	1,897	303	15.1
Wis.	30	1,050	1,021	1,010	12.2
W.N. Central					
Minn.	4	1,730	1,717	1,614	13.8
Iowa	11	947	947	67	7.1
Mo.	12	1,241	1,026	851	18.6
N. Dak.	2	120	120	120	5.0
S. Dak.	2	4	4	4	50.0
Nebr.	11	235	199	141	24.6
Kans.	18	651	306	289	9.8
S. Atlantic					
Del.	7	785	198	190	8.1
Md.	26	1,586	1,467	952	12.7
D.C.	2	1,269	1,235	1,235	19.0
Va.	5	687	611	587	15.1
W. Va.	7	269	240	178	11.7
N.C.	93	923	711	461	18.3
S.C.	46	1,131	1,064	990	12.0
Ga.	10	525	554	161	12.3
Fla.	23	6,074	5,811	3,756	21.4
E.S. Central					
Ky.	5	417	152	132	17.1
Tenn.	5	946	684	513	13.0
Ala.	5	564	518	70	16.4
Miss.	14	150	143	0	18.2
W.S. Central					
Ark.	1	120	106	93	17.9
La.	7	1,644	921	695	23.3
Okla.	7	711	691	595	21.4
Tex.	27	8,773	7,564	5,379	12.5
Mountain					
Mont.	7	170	177	168	6.8
Idaho	1	137	380	109	8.4
Wyo.	1	0	39	1	0.0
Colo.	10	4,252	4,252	4,252	41.5
N. Mex.	6	434	243	170	17.3
Ariz.	1	662	427	427	20.1
Utah	21	216	416	148	39.4
Nev.	3	984	458	63	13.8

*On at least two ELISA tests

HTLV-III/LAV — Continued

TABLE 5. Alternate testing site activities — United States, 1985 (Continued)

Area	Testing sites	Pretest sessions	Persons tested	Post-test sessions	Percent positive*
Pacific					
Wash	18	3,136	2,569	2,330	12.7
Oreg	15	829	1,435	829	21.2
Calif	51	17,721	17,546	11,552	13.7
San Fran	2	5,898	5,898	5,047	19.9
Alaska	5	824	915	77	9.3
Hawaii	1	793	658	599	17.3
Guam	0	0	0	0	—
P.R.	2	595	904	351	40.7
V.I.	0	0	0	0	—
Pac. Trust Terr.	0	0	0	0	—

*On at least two ELISA tests

Reported by Div of Sexually Transmitted Diseases, Center for Prevention Svcs, CDC.

Editorial Note: Many of the project areas reported they had underestimated the difficulty of establishing alternate sites on a short-term basis. Start-up delays were common because of administrative procedures and such factors as general hiring freezes and the development of systems to assure strict confidentiality of all records related to counseling and clinical laboratory test results. Moreover, the initial demand for services was less than most areas had anticipated. The number of tests performed in each area depended on many factors, including accessibility of services, perception of the benefits or risks of testing, and awareness of the existence of services by those at risk. The utilization of the sites varied widely in both high and low AIDS-incidence areas (Table 6), perhaps indicating that demand for testing depends on the degree to which it is encouraged and made accessible for persons at risk. In one project area with a high test-to-case ratio, testing was actively promoted by both public health authorities and AIDS risk-group representatives (1).

The goal of protecting the blood supply by providing alternate sites at which persons could be tested was achieved. In addition, experience with the HTLV-III/LAV ELISA tests since licensure in March 1985 has shown them to be remarkably sensitive and specific (2) and to be useful, not only for preventive purposes, but also for the diagnosis and differential diagnosis of clinical illness. An evaluation of the tests used to screen blood donors in a large metropolitan area showed a specificity of 99.8% (3). Thus, they have value in identifying individuals who are infected, and who are likely to be able to transmit the infection to others by the established routes of transmission, even if such individuals themselves are asymptomatic.

Accordingly, the U.S. Public Health Service has proposed additional applications to prevent perinatal transmission (4) and to help reduce drug abuse-related and sexual transmission of HTLV-III/LAV virus by infected persons (5). The main purpose of the additional applications is to facilitate identification of seropositive asymptomatic persons, both for medical evaluation and for counseling to prevent transmission. Reduction of sexual and drug-related transmission of HTLV-III/LAV should be enhanced by using available serologic tests to give asymptomatic, infected individuals in high-risk groups the opportunity to know their status so they can take appropriate steps to prevent further transmission (6).

The wide network of alternate testing sites that has been established by state and local health departments, frequently in cooperation with local community groups, may facilitate extension of testing services to selected populations at increased risk for HTLV-III/LAV infection.

References

1. Judson FN. Personal communication.

HTLV-III/LAV — Continued

- 2 CDC. Update: Public Health Service Workshop on Human T-Lymphotropic Virus Type III Antibody Testing—United States. MMWR 1985;34:477-8.
- 3 Ward JW, Grindon AJ, Fionno PM. Laboratory and epidemiological evaluation of an enzyme immunoassay for antibodies to human T-lymphotropic virus, type III. JAMA (in press).
- 4 CDC. Recommendations for assisting in the prevention of perinatal transmission of human T-lymphotropic virus type III lymphadenopathy-associated virus and acquired immunodeficiency syndrome. MMWR 1985;34:721-6, 731-2.
- 5 CDC. Additional recommendations to reduce sexual and drug abuse-related transmission of human T-lymphotropic virus type III lymphadenopathy-associated virus. MMWR 1986;35:152-5.
- 6 Handsfield HH, Dunphy CA, Bonin P. Unpublished data.

TABLE 6. Reported AIDS cases and tests for HTLV-III/LAV antibody performed at alternate sites, for 10 project areas — United States, 1985*

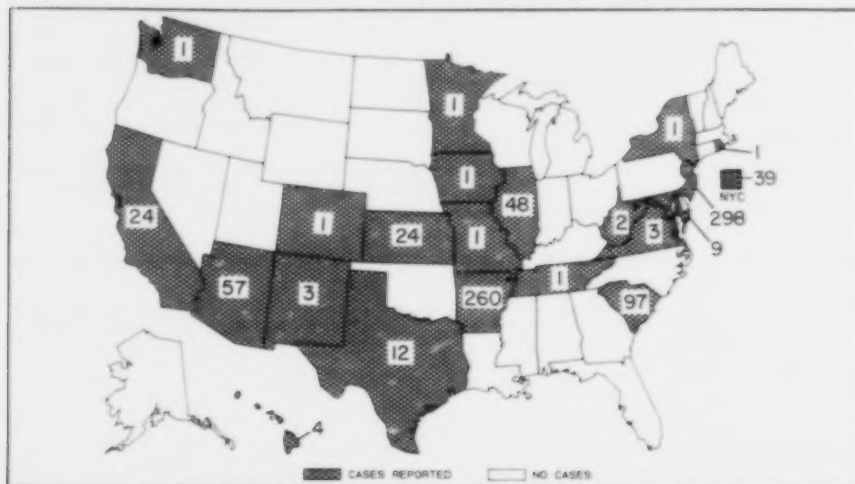
Project area	Reported AIDS cases †	HTLV-III/LAV tests	Tests per case
New York City	2,140	2,032	1.0
California [§]	1,923	23,444	12.2
Florida	516	5,811	11.3
Texas	483	7,564	15.7
New Jersey	460	1,818	4.0
Colorado	61	4,252	69.7
Ohio	53	2,780	52.5
Oregon	33	1,435	43.5
Iowa	13	947	72.9
Alaska	5	915	183.0
United States	8,072	79,083	9.8

*This table shows five project areas with the highest number of reported cases and five project areas with the highest rates of tests per case.

†Provisional totals reported to MMWR through week 52, 1985.

§Includes the separately funded San Francisco project area.

FIGURE 1. Reported measles cases — United States, weeks 13-16, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/21053 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 *
NEWARK PUBLIC LIBR *
5 WASHINGTON ST *
NEWARK NJ 07101 *

35/18

CENTERS FOR DISEASE CONTROL

May 9, 1986 / Vol. 35 / No. 18

MMWR

- 289 Ectopic Pregnancy — United States, 1981-1983
 291 Horsemeat-Associated Trichinosis — France
 298 Blood Lead Levels among Office Workers — New York City

MORBIDITY AND MORTALITY WEEKLY REPORT

U. S. GOVT. PRINTING OFFICE: 1985

Ectopic Pregnancy — United States, 1981-1983

During 1981, 68,000 ectopic pregnancies were reported in the United States, the number decreased to 61,800 in 1982 and increased again to 69,600 in 1983 (Table 1). Over the 14-year surveillance period of 1970-1983, the rate of ectopic pregnancy increased more than threefold from 4.5 per 1,000 pregnancies* in 1970 to 14.0/1,000 in 1983 (Table 1, Figure 1). The rate per 1,000 live births increased fourfold from 4.8 in 1970 to 19.2 in 1983, and the rate per 10,000 females 15-44 years of age increased threefold from 4.2 to 12.6 during 1970-1983. The mortality rate continued to decrease from 0.9/1,000 ectopic pregnancies in 1980 to 0.5/1,000 in 1983 (Figure 2).

Preliminary analysis has revealed that for 1981-1983, as for 1970-1980, the highest rates of ectopic pregnancy were among women 35 years of age or older and among women of black and other races. However, unlike 1970-1980, when the highest rates of ectopic

* Includes ectopic pregnancies, legally induced abortions, and live births.

TABLE 1. Numbers and rates of reported ectopic pregnancies, by year — United States, 1970-1983

Year	No.*	Rates		
		Females 15-44 yrs.†	Live births‡	Reported pregnancies§
1970	17,800	4.2	4.8	4.5
1971	19,300	4.4	5.4	4.8
1972	24,500	5.5	7.5	6.3
1973	25,600	5.6	8.2	6.8
1974	26,400	5.7	8.4	6.7
1975	30,500	6.5	9.8	7.6
1976	34,600	7.2	11.0	8.3
1977	40,700	8.3	12.3	9.2
1978	42,400	8.5	12.8	9.4
1979	49,900	9.9	14.3	10.4
1980	52,200	9.9	14.5	10.5
1981	68,000	12.7	18.7	13.6
1982	61,800	11.5	17.0	12.3
1983	69,600	12.6	19.2	14.0
Total	563,300	8.3	11.8	9.2

*Rounded to nearest 100

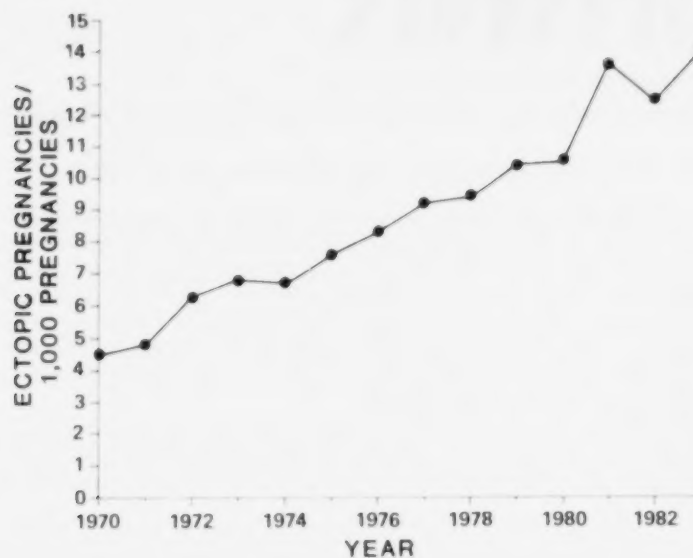
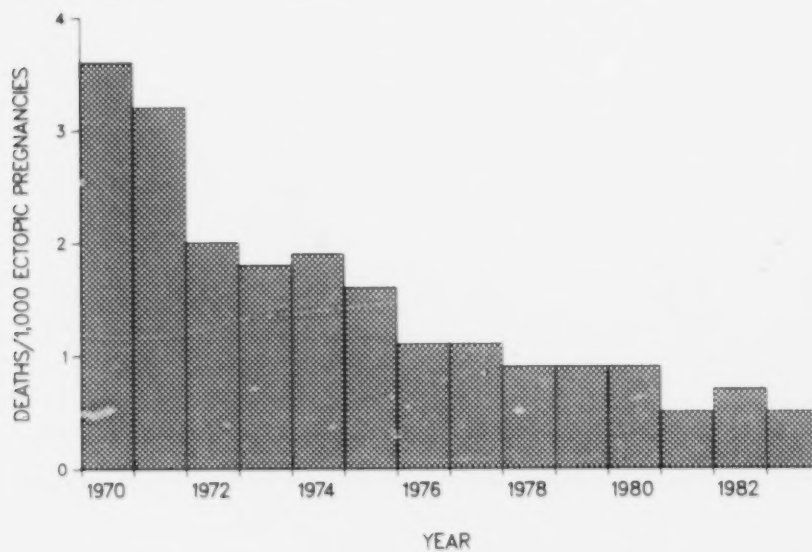
†Rate per 10,000 females

‡Rate per 1,000 live births

§Rate per 1,000 reported pregnancies (live births, legally induced abortions, and ectopic pregnancies)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

*Ectopic Pregnancy — Continued***FIGURE 1.** Ectopic pregnancy rates per 1,000 reported pregnancies, by year, — United States, 1970-1983**FIGURE 2.** Mortality rates for women with ectopic pregnancies, by year, — United States, 1970-1983

Ectopic Pregnancy — Continued

pregnancy occurred in the Northeast and the lowest occurred in the South, during 1981-1983, the highest rates were in the West, and the lowest, in the Northeast.

As in 1970-1980, in 1981-1983 there was no substantial difference in the risk of dying from ectopic pregnancy among women of different age groups. The mortality rate was highest in the South and lowest in the West. However, women of black and other races had a threefold higher risk of death from ectopic pregnancy than white women, compared with a 3.6-fold higher risk during 1970-1980.

Reported by Pregnancy Epidemiology Br, Research and Statistics Br, Div of Reproductive Health, Center for Health Promotion and Education, CDC.

Editorial Note: CDC has previously reported on ectopic pregnancy in the United States for 1970-1980 (1). Data on ectopic pregnancy incidence were obtained from the National Hospital Discharge Survey of the National Center for Health Statistics. The increasing incidence of ectopic pregnancy is probably related to improved diagnostic technology, as well as to an increased incidence of pelvic inflammatory disease (2). There is no ready explanation for the out-of-proportion increase in the number and rate of ectopic pregnancies in 1981.

Ectopic pregnancy mortality data for 1979-1982 were obtained from CDC's Ectopic Pregnancy Mortality Surveillance. For the other years, mortality data were obtained from death certificate data from NCHS. Numbers from those two sources have been found to be comparable.

Mortality due to ectopic pregnancy dropped dramatically in the early 1970s and more slowly during the recent years (Figure 2). Overall, the mortality rate decreased sevenfold from 3.5 deaths/1,000 ectopic pregnancies in 1970 to 0.5/1,000 in 1983.

References

1. MacKay HT, Hughes JM, Hogue CJR. Ectopic pregnancy in the United States, 1979-1980. In: CDC surveillance summaries. Atlanta, Georgia: Centers for Disease Control; 1984,33(No. 2SS):1SS-7SS.
2. Washington AE, Cates W Jr, Zaidi AK. Hospitalizations for pelvic inflammatory disease: epidemiology and trends in the United States, 1975 to 1981. JAMA 1984;251:2529-33.

Horsemeat-Associated Trichinosis — France

In August and October 1985, two outbreaks of trichinosis associated with consumption of horsemeat occurred in France. Brief reports follow.

Outbreak 1. During the week of August 12, 1985, several cases of trichinosis were diagnosed in Melun, a town located 30 miles southeast of Paris. Shortly thereafter, several more cases were diagnosed from a southern district of Paris in the 14th arrondissement. An investigation was undertaken to determine the extent and source of this outbreak. Cases of trichinosis were identified through review of medical records from private and public laboratories and contact with local physicians in the two areas where the initial cases were identified. Three hundred seventy-five (92%) of 409 persons with potential trichinosis were interviewed. A case was defined as an individual with (1) a *Trichinella*-positive muscle biopsy, with recent signs and symptoms suggestive of trichinosis; (2) positive indirect immunofluorescence test (titer greater than 1:100) for *Trichinella* antibodies, with recent signs and symptoms suggestive of trichinosis; or (3) at least three of the following signs and symptoms suggestive of trichinosis: eosinophilia, fever, myalgia, and/or periorbital edema.

Three hundred twenty-five individuals met the case definition. One hundred fifty-nine (49%) of the patients were from the 14th arrondissement of Paris, and 166 (51%) were from Melun. Patients' ages ranged from 2 years to 86 years (mean 41 years). One hundred sixty-six (51%) were male. Age distribution by sex was similar.

Diagnosis was made by a positive muscle biopsy in one patient, positive serology in 234

Trichinosis—Continued

(72%), and clinical presentation in 90 (28%). Of the symptoms compatible with trichinosis, myalgia was reported among 306 (94%) of the patients; fever, among 293 (90%); facial edema, among 189 (58%); diarrhea, among 169 (52%); and rash, among 137 (42%). Twenty percent of the patients complained of neurologic symptoms, including paresis, oculomotor dysfunction, visual field changes, dyesthesia, and dizziness. Onset of symptoms, known for 288 (89%) patients, occurred between July 29, and September 15, 1985 (Figure 3). Two patients died—an 86-year-old man, and a 65-year-old man with a history of heart disease. Four patients were pregnant; one had a miscarriage during the sixth week of pregnancy. Examination of fetus and placenta revealed no larva. The other three women delivered healthy babies.

The investigation implicated horsemeat as the source of the outbreak. All 325 patients reported consuming horsemeat—99% of whom ate it raw or rare—before onset of illness, compared with 38% of a random sample of 198 people questioned on a street in the 14th arrondissement of Paris. Family members of patients who did not eat any horsemeat but shared other food with the patients did not become infected with trichinosis. Similarly, a case-control study in a Melun prison showed that all cases and no controls had ingested horsemeat. Although several butchers in Paris and Melun sell horsemeat, all patients purchased their horsemeat exclusively from one of two shops between July 22 and August 5. The butchers from

(Continued on page 297)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	18th Week Ending			Cumulative, 18th Week Ending		
	May 3 1986	May 4 1985	Median 1981-1985	May 3 1986	May 4 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	195	82	N	4,306	2,293	N
Septic meningitis	63	84	84	1,459	1,248	1,366
Encephalitis—Primary (arthropod-borne & unspecified)	6	22	18	260	317	317
Gonorrhea	4	3	3	30	48	34
Civilian	13,123	14,832	18,226	274,042	269,233	307,418
Military	138	347	439	5,197	6,425	8,293
Hepatitis	277	402	402	7,528	7,404	7,894
Type A	469	455	464	8,587	8,536	7,900
Type B	80	72	N	1,145	1,445	N
Non A, Non B	91	105	147	1,704	1,817	2,522
Legionellosis	6	9	N	186	210	N
Leprosy	6	9	7	99	146	75
Malaria	17	17	19	244	247	247
Measles—Total*	170	81	81	2,227	1,082	1,082
Indigenous	160	48	N	2,153	864	N
Imported	10	33	N	74	218	N
Meningococcal infections—Total	45	58	62	1,104	1,070	1,247
Civilian	45	58	62	1,102	1,067	1,245
Military	—	—	—	2	3	5
Mumps	42	77	96	1,150	1,435	1,526
Peritonsillitis	38	26	26	739	521	521
Rubella (German measles)	4	16	27	180	151	418
Syphilis (Primary & Secondary)—Civilian	552	498	529	8,528	8,623	10,366
Military	3	3	4	72	70	124
Toxic Shock syndrome	3	10	N	127	138	N
Tuberculosis	418	411	441	6,780	6,775	7,598
Typhoid fever	6	14	5	78	29	36
Typhus fever—tick-borne (RMSF)	3	17	17	32	51	126
Rabies, animal	128	116	142	1,829	1,683	2,040

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	4	Leptospirosis	15
Botulism—Foodborne	21	Plague	—
Infant	—	Polomyelitis, Paralytic	—
Other	—	Psittacosis (Tex 1, N Mex 2)	19
Brucellosis (Vib 1)	18	Rabies, human	7
Cholera	—	Tetanus (RI 1)	13
Congenital rubella syndrome (ICd1 1)	2	Trichinosis	—
Congenital syphilis, ages < 1 year	11	Typhus fever— flea-borne (endemic; murrel) (Tex 2)	8
Diphtheria	—		

*Eight of the 170 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
May 3, 1986 and May 4, 1985 (18th Week)

Reporting Area	AIDS Cum 1986	Aseptic Meningitis 1986	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral) by type				Legionnaires disease 1986	Scrub typhus 1986
			Primary Cum 1986	Post-infectious Cum 1986	Cum 1986	Cum 1985	A 1986	B 1986	NA/NB 1986	Unspecified 1986		
UNITED STATES	4,306	63	260	30	274,042	269,233	273	469	60	31	6	95
NEW ENGLAND	171		9	1	6,286	8,270	8	36	4	1		2
Maine	9				334	338						
NH	7		2		175	173						
VT	2		2	1	95	85		1	1			
Mass	92		2		2,859	3,058	6	24	2	7		2
Conn	9				823	611	2	1	1			
Rhode	52		3		2,400	4,095		10				
MID ATLANTIC	1,641	3	43	1	48,774	37,612	12	38	4	3		9
District of Columbia	123	1	15		5,499	5,328	3	5	2			5
Maryland	1,163		10		28,402	17,161		2	1	2		
Virginia	268	2	5		6,505	7,113						
West Virginia	87		13	1	8,368	7,948	9	31	1	1		1
S CENTRAL	228	8	52	4	31,679	38,504	17	50	4	1	2	8
Ark	30	2	15	2	8,980	9,750	8	29	3	1	1	
La	26	1	5	2	4,029	3,884	1	4				
Miss	106	2	10		5,209	10,849	4	2				2
Okla	52	3	21		11,536	11,016	4	15		3	1	2
Tex	14		1		1,925	3,025						
S CENTRAL (cont)	81	1	9	6	12,345	13,675	15	19	3	2		1
Miss	38	1	5		1,865	2,001		6				
Ala	7		4		1,241	1,462	2	1				
Ga	20				8,158	6,328	8	9	3	2		
Dak	2				113	98						
Dak	1				246	252	1					
Iowa	3				881	1,304						
Mo	10			6	1,841	2,232	4	3				
ATLANTIC	583	19	44	11	66,599	57,510	16	39	12	5	1	1
Del	10				1,170	1,299	1	2	1			
Md	59	4	10		8,173	9,487	2	22	2			
NC	86				5,561	4,916		1				
Va	67	2	16		6,098	6,210	2	10	3			1
W Va	2		6		850	854						
C	26		8	1	11,878	10,364		10	2			
S	16				6,392	6,911		19	1			
Pa	79	3			6,682		3	37	1			
N Jersey	244	10	1	10	19,795	17,463	1	21	2	5	7	
S CENTRAL (cont)	43	2	19	1	23,658	23,482	5	44	1	1		
Ill	12		8		2,774	2,574	1	3				
Ind	19	2	1	1	9,285	9,240		20	1	1		
Ohio	8		9		6,630	7,175	1	17				
W Va	4		1		4,965	4,293	1	9				
S CENTRAL (cont)	344	7	22	1	34,937	38,106	57	37	5	21	2	1
W Va	10				3,346	3,656	4	4	1	1		
Ky	51		2		6,249	7,780						
Tenn	16	2	5		4,012	3,928	8	3	2	2		
Miss	267	5	15	1	21,370	22,742	45	30	2	26	2	1
MOUNTAIN	116	4	12	1	9,052	8,887	23	28	6	6		7
Mont	3			1	239	263	1					
Wyo	1	2			282	294						
Idaho	2		2		201	220						
Utah	65	1	2		2,338	2,665	2	6		4		1
Nev	6		1		907	1,054						
Ariz	22	1	5		2,910	2,635	11	15	5			2
N Mex	6		1		372	376		3	1	2		
N Mex	11		1		1,803	1,380	1	4				2
PACIFIC	1,099	19	50	4	40,672	43,187	125	118	21	31	1	68
Alaska	34	1	5		3,074	3,071	16	13	3			1
Hawaii	23				1,636	2,194	17	16	6			
Calif	1,023	18	43	4	34,420	36,192	93	86	12	31		50
Oregon	9		2		1,084	1,064	1	2				
Nev	10				458	666		1				
Idaho					34	63						
Mont	48	0	2		748	1,313	0	0	0	0		1
Wyo					74	162						
Utah					66	322						
Nev					13							

Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 3, 1986 and May 4, 1985 (18th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *											
		Cum 1986	1986	Cum 1986	1986	Cum 1986		Cum 1985	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986
UNITED STATES	244	160	2,153	10	74	1,082	1,104	42	1,150	38	739	521	4	180	151
NEW ENGLAND	13		16			89	80	1	35		43	26		1	6
Maine							17				2	2			
N.H.							3		10		15	15		1	2
Vt.	1						11				2	2			
Mass.	8		15			87	17		1		9	4			
R.I.	1		1				11	1	6		1	1			
Conn.	3					2	21		18		14	2			
MID ATLANTIC	28	87	871	4	7	74	179	3	66		85	62		25	37
Upstate N.Y.	6	2	4	4	5	6	35		27		59	32		17	8
N.Y. City	8	54	154		1	24	36		5		3	9		5	12
N.J.	3	31	713			7	27	1	16		5	1		3	5
Pa.	11					8	63	2	18		18	20			12
E.N. CENTRAL	8	8	230		2	356	138	11	542	1	142	76		7	11
Ohio	2					41	60	1	58		63	13			
Ind.						1	14		16		16	11			
Ill.	3	8	133			219	30		276		18	12		4	5
Mich.	3					48	33	10	100	1	17	7		2	5
Wis.			97		2	47	1		92		28	33		1	1
W.N. CENTRAL	6	9	102	4	7	5	61		55	8	45	45		7	8
Minn.	2	2	10	2	2	2	13		1	4	24	11			
Iowa	1				1		7		10	1	6	3			
Mo.	2		2	2	1	2	22		13		4	9		1	
N. Dak.									2		2	6			1
S. Dak.							1		1	3	3	1			
Nebr.	1						7								
Kans.		7	90		1	1	11		28		6	15		6	7
S. ATLANTIC	30	13	297		8	126	231	6	89	25	221	123		6	19
Del.			1				1			22	107				
Md.	4	5	16		5	16	30		6		24	43			1
D.C.						2	2								
Va.	6		3		1	16	43		15		9	3			1
W. Va.	3		2			3	3	1	27		4	7			6
N.C.	3					1	38				15	7			
S.C.	2	8	264				24		11						2
Ge.	3				1	8	34	1	6	2	51	46			
Fla.	12		11		1	80	56	4	17	1	8	24		6	9
E.S. CENTRAL	5	1	2				62	1	15	1	16	4		1	1
Ky.	2						11		2		1	1		1	1
Tenn.			1				27	1	11		5	1			
Ala.	2						17		1	1	10	2			
Miss.	1	1	1				7		1						
W.S. CENTRAL	18		302		24	65	81	7	91		26	61		35	14
Ark.			271		2		12	1	7		2	9			1
La.	4					7	5				3	2			
Okla.	2				4		12	N	N		21	50			
Tex.	12		31		18	58	48	6	84					35	13
MOUNTAIN	6	24	141		8	273	45	3	128		86	22		1	3
Mont.					1	134	5		3		1	3			
Idaho	1					11	1		2		26				1
Wyo.							2								
Colo.	1		2		3	5	8		6		18	8			
N. Mex.			16		4	2	5	N	N		9	3			1
Ariz.	2	24	123			121	13	3	113		23	4		1	1
Utah	1						5		1		9	4			
Nev.	1						6		3						
PACIFIC	130	18	192	2	18	94	227	10	129	3	75	102	4	97	52
Wash.	10	2	37		7	1	30		5		26	16	1	2	2
Oreg.						2	3	N	N		5	16			1
Calif.	111	16	136	2	8	83	170	9	112	2	40	65	3	94	37
Alaska							8		4		1	2			
Hawaii			19		1	7	1	1	8	1	3	3		1	12
Guam	1		3			10			2					2	1
P.R.	3	U		U		40	2	U	15	U	4	1	U	58	8
V.I.						9			7						
Pac. Trust Terr.															
Amer. Samoa															

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable I International O Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 3, 1986 and May 4, 1985 (18th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Rocky Mountain Spotted Fever)	Rabies Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	8,528	8,623	3	6,780	6,775	19	78	32	1,829
NEW ENGLAND	173	191		204	237		3	1	2
Maine	11	7		19	16				
N.H.	6	3		4	10				
Vt.	6			7	4				
Mass.	85	99		104	143				
R.I.	12	6		14	21		2	1	
Conn.	53	76		56	43		1		1
MID ATLANTIC	1,216	1,140		1,394	1,264		7	1	168
Upstate N.Y.	64	88		209	202		1	1	25
N.Y. City	671	704		674	652		4		1
N.J.	242	243		257	128		2		3
Pa.	239	105		254	282				139
E.N. CENTRAL	256	416	2	862	827		4	3	35
Ohio	45	52	1	133	146			2	3
Ind.	41	34		96	103				7
Ill.	92	214		383	366				13
Mich.	56	96	1	205	168		3	1	4
Wis.	22	20		46	44		1		8
W.N. CENTRAL	96	91		187	168	6	4	1	265
Minn.	16	23		47	33		1		26
Iowa	5	14		16	27	1			61
Mo.	49	35		92	76	5	3		23
N. Dak.	2			3	2				62
S. Dak.	1	4		8	7				64
Nebr.	8	6		4	7				5
Kans.	15	9		17	16			1	24
S. ATLANTIC	2,370	2,127		1,299	1,374	4	8	9	431
Del.	12	16		16	14				
Md.	164	153		94	113	1	1		260
D.C.	129	126		51	67				
Va.	154	117		127	114	1	2	1	74
W. Va.	8	4		46	32				10
N.C.	186	248		195	173	1	2	2	1
S.C.	246	253		151	166			5	13
Ga.	256			172	206	1		1	52
Fla.	1,215	1,210		447	489		2		21
E.S. CENTRAL	596	762		592	604	3		8	109
Ky.	25	31		155	119	2		1	27
Tenn.	223	219		160	182	1		2	56
Ala.	206	244		193	209			2	26
Miss.	142	268		84	94			3	
W.S. CENTRAL	1,814	2,195		822	744	5	4	8	267
Ark.	93	113		92	83	3			58
La.	303	363		171	119				6
Okla.	56	60		74	80	2	1	6	21
Tex.	1,362	1,659		485	462		3	2	182
MOUNTAIN	212	287	1	140	165		3	1	317
Mont.	2	1		7	19				118
Idaho	2	2		5	6				
Wyo.		5			3				
Colo.	65	63		2	18			1	143
N. Mex.	26	36		34	32				3
Ariz.	93	163		68	76		1		53
Utah	4	3	1	11	5		1		
Nev.	20	14		13	6				
PACIFIC	1,795	1,414		1,280	1,392	1	45		235
Wash.	27	52		72	68		2		
Oreg.	35	32		46	48				
Calif.	1,716	1,302		1,084	1,161		41		227
Alaska		1		17	50	1			8
Hawaii	17	27		61	65		2		
Guam	1	2			14				
P.R.	284	310	U	81	108		2		15
Pac. Trust Terr.		1		1	1				
Amer. Samoa	105	22		10	26		25		
				1					

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
May 3, 1986 (18th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	702	486	130	44	15	27	65	S. ATLANTIC	1,433	826	340	154	50	61	47
Boston, Mass.	181	109	39	13	7	13	21	Atlanta, Ga.	143	84	43	6	7	3	5
Bridgeport, Conn.	59	38	13	4	2	2	6	Baltimore, Md.	239	147	57	22	10	3	4
Cambridge, Mass.	22	17	4	1	-	-	7	Charlotte, N.C.	54	35	13	3	2	1	2
Fall River, Mass.	23	16	6	-	-	1	-	Jacksonville, Fla.	117	79	29	4	3	2	2
Hartford, Conn.	67	43	20	3	-	1	4	Miami, Fla.	120	78	28	7	-	7	-
Lowell, Mass.	27	22	3	1	1	-	1	Norfolk, Va.	71	42	15	5	2	7	9
Lynn, Mass.	22	17	4	-	-	1	3	Richmond, Va.	87	53	21	4	2	7	3
New Bedford, Mass.	27	25	2	-	-	-	3	Savannah, Ga.	53	32	18	-	3	-	4
New Haven, Conn.	46	28	7	7	2	2	5	St. Petersburg, Fla.	107	77	18	6	2	4	4
Providence, R.I.	66	48	8	6	2	2	5	Tampa, Fla.	81	54	19	5	1	1	7
Somerville, Mass.	11	10	-	1	-	-	-	Washington, D.C.	324	119	71	90	17	26	6
Springfield, Mass.	44	32	9	1	-	2	4	Wilmington, Del.	37	26	8	2	1	-	1
Waterbury, Conn.	30	22	3	4	1	-	2								
Worcester, Mass.	77	59	12	3	-	3	6								
MID ATLANTIC	2,918	1,924	702	262	44	85	149	P. ATLANTIC	794	520	191	35	16	32	43
Albany, N.Y.	55	-	10	2	-	4	-	Birmingham, Ala.	79	78	34	4	2	11	2
Allentown, Pa.	22	20	2	-	-	-	-	Chattanooga, Tenn.	54	39	14	1	-	-	6
Buffalo, N.Y.	118	86	21	6	1	5	9	Knoxville, Tenn.	76	-	18	3	3	-	9
Camden, N.J.	38	24	9	3	-	2	-	Louisville, Ky.	155	92	32	5	3	10	4
Elizabeth, N.J.	27	19	6	2	-	-	1	Memphis, Tenn.	142	103	32	2	3	-	4
Erie, Pa.	36	23	12	1	-	-	4	Mobile, Ala.	63	40	15	3	-	-	6
Jersey City, N.J.	56	32	15	7	1	1	-	Montgomery, Ala.	57	40	11	2	1	3	2
N.Y. City, N.Y.	1,482	977	296	163	21	25	64	Nashville, Tenn.	118	76	26	11	4	1	8
Newark, N.J.	83	35	17	13	4	14	5	W.S. CENTRAL	1,375	835	341	119	46	31	62
Paterson, N.J.	33	22	3	3	-	5	-	Austin, Tex.	60	42	13	4	1	-	2
Philadelphia, Pa.	517	327	121	34	13	22	35	Baton Rouge, La.	69	42	20	3	4	-	3
Pittsburgh, Pa.	55	38	16	3	-	1	2	Corpus Christi, Tex.	40	24	8	6	1	1	3
Reading, Pa.	39	33	5	1	-	-	1	Dallas, Tex.	158	100	40	13	2	3	1
Rochester, N.Y.	121	77	28	11	4	1	12	El Paso, Tex.	78	40	20	10	5	-	9
Schenectady, N.Y.	33	24	6	2	-	1	3	Fort Worth, Tex.	99	58	26	6	5	4	3
Scranton, Pa.	25	17	6	2	-	-	-	Houston, Tex.	297	170	77	34	10	6	11
Syracuse, N.Y.	90	65	16	8	-	1	7	Little Rock, Ark.	83	46	21	5	4	7	8
Trenton, N.J.	36	24	7	2	1	2	-	New Orleans, La.	108	68	25	12	-	3	-
Utica, N.Y.	24	19	5	2	-	-	3	San Antonio, Tex.	216	132	50	19	12	3	12
Yonkers, N.Y.	28	23	2	2	-	1	4	Shreveport, La.	76	48	20	5	2	1	1
								Tulsa, Okla.	91	65	21	2	-	3	9
E.N. CENTRAL	2,210	1,478	459	125	65	83	84	MOUNTAIN	619	384	135	51	27	22	28
Akron, Ohio	69	48	12	3	3	3	2	Albuquerque, N.Mex.	80	52	17	6	4	1	2
Canton, Ohio	32	24	6	-	-	2	1	Colorado Springs, Colo.	43	26	13	2	2	-	2
Chicago, Ill.	564	361	124	47	11	21	17	Denver, Colo.	113	62	23	16	9	3	5
Cincinnati, Ohio	97	59	27	7	3	1	11	Las Vegas, Nev.	80	48	21	7	1	3	5
Cleveland, Ohio	161	106	28	13	1	13	2	Ogden, Utah	13	6	3	2	1	1	2
Columbus, Ohio	123	79	30	4	6	4	6	Phoenix, Ariz.	144	93	33	7	5	6	5
Dayton, Ohio	103	73	23	3	2	2	3	Pueblo, Colo.	14	10	3	-	-	1	1
Detroit, Mich.	241	136	60	16	16	13	5	Salt Lake City, Utah	42	26	5	5	1	5	2
Evansville, Ind.	55	46	5	3	1	-	-	Tucson, Ariz.	90	61	17	6	4	2	5
Fort Wayne, Ind.	50	33	9	2	5	1	4								
Gary, Ind.	10	4	3	2	1	-	1	PACIFIC	1,926	1,292	349	167	61	57	115
Grand Rapids, Mich.	41	33	3	1	2	2	2	Berkeley, Calif.	16	12	4	-	-	-	-
Indianapolis, Ind.	190	130	42	8	4	6	4	Fresno, Calif.	83	55	13	9	3	3	3
Madison, Wis.	29	23	3	1	2	5	5	Glendale, Calif.	39	36	2	-	1	-	3
Milwaukee, Wis.	140	110	21	2	2	5	5	Honolulu, Hawaii	65	44	18	2	-	1	5
Peoria, Ill.	38	28	8	1	1	-	7	Long Beach, Calif.	120	83	19	8	3	7	18
Rockford, Ill.	37	28	4	1	-	4	2	Los Angeles, Calif.	502	326	92	55	22	7	15
South Bend, Ind.	34	23	8	2	-	1	3	Oakland, Calif.	113	72	20	7	6	8	6
Toledo, Ohio	114	69	32	6	3	4	11	Pasadena, Calif.	38	26	4	5	-	3	1
Youngstown, Ohio	82	65	11	3	2	1	3	Portland, Ore.	117	86	21	4	2	4	5
								Sacramento, Calif.	158	104	29	16	6	3	14
W.N. CENTRAL	733	520	139	38	12	24	25	San Diego, Calif.	148	100	30	11	4	3	16
Des Moines, Iowa	73	53	12	4	1	3	2	San Francisco, Calif.	131	82	18	23	2	6	5
Duluth, Minn.	27	21	6	-	-	-	1	San Jose, Calif.	162	107	30	14	7	4	11
Kansas City, Kans.	33	25	6	1	1	-	-	Seattle, Wash.	136	87	28	12	3	6	5
Kansas City, Mo.	95	65	17	9	1	2	7	Spokane, Wash.	62	44	14	-	2	2	7
Lincoln, Nebr.	35	27	7	-	-	-	5	Tacoma, Wash.	36	28	7	1	-	-	1
Minneapolis, Minn.	87	61	13	6	2	5	1								
Omaha, Nebr.	84	55	18	7	4	3	3								
St. Louis, Mo.	174	131	27	5	5	6	2								
St. Paul, Minn.	64	43	15	4	1	1	1								
Wichita, Kans.	61	39	18	2	-	2	3								
TOTAL	12,710	8,265	2,687	995	336	422	628								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

‡ Data not available. Figures are estimates based on average of past 4 weeks.

Trichinosis — Continued

these two shops and their families were also infected with trichinosis. Records indicated that each shop received half of a single horse carcass on July 22. The carcass had been shipped as "fresh meat" to France from a slaughterhouse in Connecticut, which ships 8,000-9,000 horses to Europe each year. The establishment is inspected by the U.S. Department of Agriculture, but inspection did not include examination of meat samples for trichinae. Because horses are obtained by the slaughterhouse from multiple sources and are not individually identified on leaving the processing plant, the implicated horse could not be traced to farm of origin. No meat from the implicated horse was available for inspection.

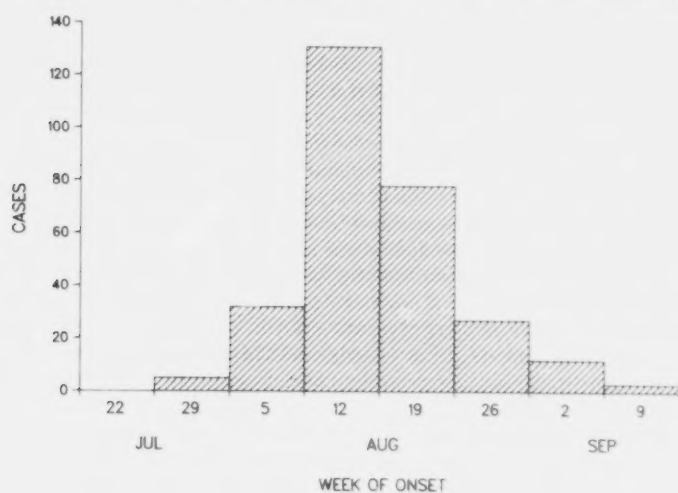
Outbreak 2. Although not fully investigated at this time, a second outbreak of trichinosis occurred in France beginning October 3, 1985. Preliminary reports from physicians and hospitals suggest that up to 900 individuals were infected with trichinosis, most coming from three foci in Paris and its surroundings: Paris 12, Nogent/Seine, and Vitry/Seine. Six provincial foci were also involved but with smaller numbers of patients.

Imported horsemeat was again implicated as the source of the infection. All patients reported eating horsemeat purchased from one shop in each of the foci. Five of nine butchers selling the horsemeat at these shops and their families were infected. Records indicate that all of the implicated shops received portions of the same horse imported from West Germany. Three quarters of the horse were sold as fresh meat in the three main foci of the outbreak on September 12. The remaining quarter was deboned and vacuum-packed in 5- to 20-kg portions and was delivered to the six secondary provincial foci over the next 2 weeks.

Reported by T Ancelle, MD, J Dupouy-Camet, MD, F Heyer, MD, C Faurant, MD, J Lapierre, MD, Dept of Parasitology, Cochin Hospital, Paris, France; G Parham, DVM, W Leese, JC Leighty, DVM, Food Safety and Inspection Svc, US Dept of Agriculture, Beltsville, Maryland; Helminthic Diseases Br, Div of Parasitic Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Horsemeat has rarely been implicated as a source of trichinosis. The first reported outbreaks due to this meat source occurred in Italy in 1975 (1) and in France in 1976 (2). In both instances, the infected horsemeat had been imported from Eastern Europe. How horses become infected with trichinosis is unknown. Horses are commonly observed to be herbivorous; however, experimental studies prompted by the outbreak in Italy indicate that horses will ingest meat placed in their feed and will become infected with trichinosis when

FIGURE 3. Horsemeat-associated trichinosis, by week of onset — France, 1985



Trichinosis — Continued

fed infective larvae (3). The unusually large numbers of cases involved in the two 1985 outbreaks are related to the size of the implicated animal species (the carcass of the horse associated with outbreak 1 was 278 kg) and the preference among French consumers for raw or lightly cooked horsemeat, prepared as steaks, in soups, or ground ("steak tartare"). At the time of the second outbreak, the French Ministry of Agriculture temporarily banned importation of horsemeat from all countries and will currently accept it only if certified trichinae-free by an approved inspection procedure.

Little is known about *Trichinella* infection in horses in the United States, but it is assumed to be extremely rare. Between late October and December 31, 1985, samples from 20,000 horses killed in the United States were examined for *Trichinella*, with negative results. Trichinosis in horses in the United States would presumably represent an unlikely public health hazard because few citizens eat horsemeat, and those who do probably cook it. Since 1975, 30 to 289 U.S. trichinosis cases have been reported per year, approximately 80% of which were associated with the ingestion of pork (4).

References

1. Mantovani A, Filippini I, Bergomi S. Indagini su un'epidemia di trichinellosi umana verificatasi in Italia. *Parassitologia* 1980;22:107-34.
2. Bourée P, Bouvier JB, Passeron J, Galanaud P, Dormont J. Outbreak of trichinosis near Paris. *Br Med J* 1979;1:1047-9.
3. Bellani L, Mantovani A, Pampiglione S, Filippini I. Observations on an outbreak of human trichinellosis in northern Italy. In: CW Kim, ZS Pawlowski, eds. *Proceedings of the Fourth International Conference on Trichinellosis*. University Press of New England, 1976:535-9.
4. Schantz PM. Trichinosis in the United States—1947-1981. *Food Tech* 1983;37:83-6.

Blood Lead Levels among Office Workers — New York City

On February 15, 1985, morning and afternoon water samples from drinking fountains in the Jacob K. Javits Federal Building (JFB) in New York City were collected because of the poor taste of the water. The U.S. Environmental Protection Agency (EPA) tested samples from five of the 41 floors of the 19-year-old JFB for the presence of heavy metals. Elevated levels of lead were reported for the afternoon samples from fountains at the north end of the building; concentrations ranged from 100 $\mu\text{g/l}$ to 210 $\mu\text{g/l}$; the EPA standard maximum contaminant level for lead in drinking water is 50 $\mu\text{g/l}$. Levels of copper were also elevated (up to 5,900 $\mu\text{g/l}$).

Repeated testing for lead content of the water from the intake pipes into the building, from the JFB storage tanks, and/or from the drinking fountains and bathroom sinks on the floors of the JFB was undertaken by the EPA on April 18, by a private engineering firm on April 29 and June 10, by the New York City Department of Environmental Protection on May 13, and by the New York City Department of Health (NYCDH) on May 15 and May 17. The highest concentrations of lead were found in water from the north intake pipe sampled through a freshly lead-soldered spigot and were 14,400 $\mu\text{g/l}$ on April 29 and 1,070 $\mu\text{g/l}$ on May 15. Of 68 water samples taken from drinking fountains and sinks on 12 floors of the JFB (including the originally tested five floors) and tested by either the NYCDH in May or the private engineering firm in June, 67 samples had acceptable levels of lead; one sample, from an unused fountain, had an elevated lead level of 151 $\mu\text{g/l}$.

On May 20, the use of drinking water from the entire JFB was temporarily discontinued in favor of bottled water. The intake pipes, which contained lead solder and had sampling taps with lead solder joints, were subsequently replaced with stainless steel pipes; the mechanical

Blood Lead Levels -- Continued

water chillers, which had copper tubing, were repaired; and the corrosiveness (acidity) of the water was decreased.

Because of the uncertainty of employee exposure to lead and the duration of any exposure, a voluntary screening program for blood lead was offered July 9 and July 10 to all of the approximately 10,000 federal employees who worked in the JFB to determine the extent of lead absorption (Table 2). Three hundred sixty-nine (4%) of the employees were tested for blood lead levels. Each employee provided demographic information and exposure-related data concerning the average daily amount of water consumed in the JFB. Blood lead determinations were made at the NYCDH Toxicology Laboratory by atomic absorption spectrophotometry (extraction method) with a lower limit of detection of 10 $\mu\text{g}/\text{dl}$.

Of the 369 employees, 188 (51%) were women. The women ranged in age from 16 years to 74 years (median 37 years); the men ranged in age from 23 years to 69 years (median 42 years). Six women reported they were pregnant, and one woman reported she was possibly pregnant. Two hundred thirty-eight (64%) of the employees resided in New York City, the others lived in New York City suburbs.

Of the employees tested, 85% had blood lead levels of 10 $\mu\text{g}/\text{dl}$ or lower. The highest detected blood lead level, found in one employee, was 27 $\mu\text{g}/\text{dl}$. The percentage of employees with blood lead levels greater than 10 $\mu\text{g}/\text{dl}$ increased significantly with increasing age, with a drop-off among persons aged at least 60 years ($p < 0.05$) (Table 1). Blood lead levels did not differ significantly among persons when categorized by sex, agency of employment, floor of employment, self-reported average daily consumption of water while at work, or place of residence. Of the seven pregnant or possibly pregnant women, six had blood lead levels of 10 $\mu\text{g}/\text{dl}$ or less, and one had a level of 13 $\mu\text{g}/\text{dl}$.

Reported by L Budnick, MD, H Young, MD, Div of Federal Employee Occupational Health, V Chang, MD, US Public Health Service, Region II, B Kaul, PhD, B Davidow, PhD, New York City Dept of Health Laboratories, National Institute for Occupational Safety and Health, CDC.

Editorial Note: The water in the JFB intake pipe was apparently contaminated with lead from solder in the pipes and from the lead-soldered sampling tap. If the drinking water on all floors was contaminated with excess lead, either the level was insufficiently elevated, the duration of exposure was too short, or the amount of consumption was too small to result in any evident increase in absorption and blood lead levels among the employees. Nevertheless, the water distribution and chilling systems have been repaired, and the water in the JFB is now being filtered and chilled to decrease the concentration of heavy metals. The water is being monitored quarterly to ensure good drinking water quality; the initial tests revealed that all water samples had lead levels within standard limits.

None of the 369 adults tested had abnormal absorption of lead from the environment, as evidenced by the blood lead levels. The majority of office workers tested had blood lead levels of 10 $\mu\text{g}/\text{dl}$ or less. A national survey of adults revealed a mean blood lead level of 9.2 $\mu\text{g}/\text{dl}$ in 1980, a 37% decline over 4 years (1). Overall, for the 4 years 1977-1980, the national survey revealed age-group-specific mean levels for adults of between 13.1 $\mu\text{g}/\text{dl}$ and 15.3 $\mu\text{g}/\text{dl}$.

TABLE 2. Jacob K. Javits Federal Building employee blood lead levels, by age — New York City, July 9-10, 1985

Blood lead level ($\mu\text{g}/\text{dl}$)	Age (years)					Unknown	Total
	< 30	30-39	40-49	50-59	≥ 60		
≤ 10	43	116	70	44	34	5	312
11-19	0	16	10	18	5	1	50
20-27	0	0	4	3	0	0	7
Total	43	132	84	65	39	6	369

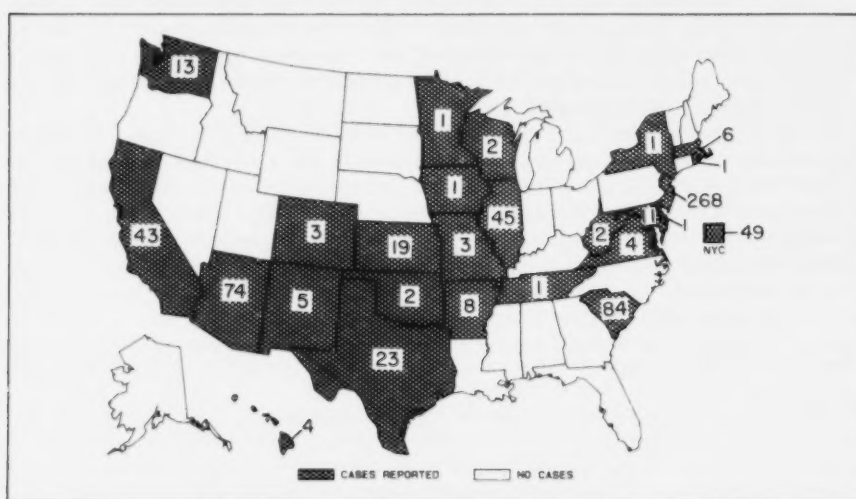
Blood Lead Levels -- Continued

with the peak among persons aged 45-54 years (2). The results of the New York City survey parallel the national survey. In addition, nationally, blood lead levels were higher among urban residents (2).

References

1. Annett JL, Pirkle JL, Makuc D, Neese JW, Bayse DD, Kovar MG. Chronological trend in blood lead levels between 1976 and 1980. *N Engl J Med* 1983;308:1373-7.
2. Mahaffey KR, Annett JL, Roberts J, Murphy RS. National estimates of blood lead levels: United States, 1976-1980: association with selected demographic and socioeconomic factors. *N Engl J Med* 1982;307:573-9.

FIGURE 1. Reported measles cases — United States, weeks 14-17, 1986



U.S. Government Printing Office: 1986-746-149/21054 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

**BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26**

MMWR NEWARK DR 376 F 1 *
NEWARK PUBLIC LIBR *
5 WASHINGTON ST *
NEWARK NJ 07101 *
*

5/19

CENTERS FOR DISEASE CONTROL

MNWR

MORBIDITY AND MORTALITY WEEKLY REPORT

May 16, 1986 / Vol. 35 / No. 19

- 301 Seat Belt Use — United States
 304 Plasmid-Mediated Tetracycline-Resistant *Neisseria gonorrhoeae* — Georgia, Massachusetts, Oregon
 311 *Campylobacter* Outbreak Associated with Raw Milk Provided on a Dairy Tour — California
 313 Excavation Cave-in Fatalities — Texas, 1976-1985

NEWARK PUBLIC LIBRARY

MAY 29 1986

Perspectives in Disease Prevention and Health Promotion

Seat Belt Use — United States

In surveys conducted from 1981 to 1983, 76% of the U.S. adult population reported that they did not use seat belts (i.e., used seat belts sometimes, seldom, or never) (1). The percentages of men and women who did not use seat belts were similar, but the percentages were significantly higher for people who were younger, who were black, and who had completed fewer years of education. These differences persisted after adjusting for the other demographic characteristics (Table 1). The percentage of persons who did not use seat belts also varied widely

TABLE 1. Adjusted* percentage of adults reporting using seat belts sometimes, seldom, or never, by age, race/ethnicity, sex, and education — United States, 1981-1983†

Group	% using seat belts sometimes, seldom, or never	95% confidence interval
Sex		
Male	76.4	74.6-78.1
Female	75.2	73.7-76.7
Age (yrs.)		
15-24	81.4§	78.6-84.2
25-34	77.2	74.9-79.5
35-59	76.0	74.0-77.9
≥ 60	69.4§	66.2-72.6
Race/ethnicity		
White non-Hispanic	75.8§	74.5-77.1
Black	80.6§	77.7-83.6
Hispanic	67.4§	62.7-72.0
Education (grades completed)		
< 12	84.7§	82.5-86.9
12	81.8	79.6-84.0
13-15	73.7	71.0-76.4
≥ 16	60.3§	57.4-63.3

*Adjusted for the other demographic variables. For example, age has been adjusted for race/ethnicity, sex, and education.

†Adapted with permission (1).

§Differs significantly from the other categories within group (z-test at 0.05 level). For example, the percentage of white non-Hispanics differs significantly from the percentage of blacks and Hispanics.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

1E 20.7009:

Seat Belt Use - Continued

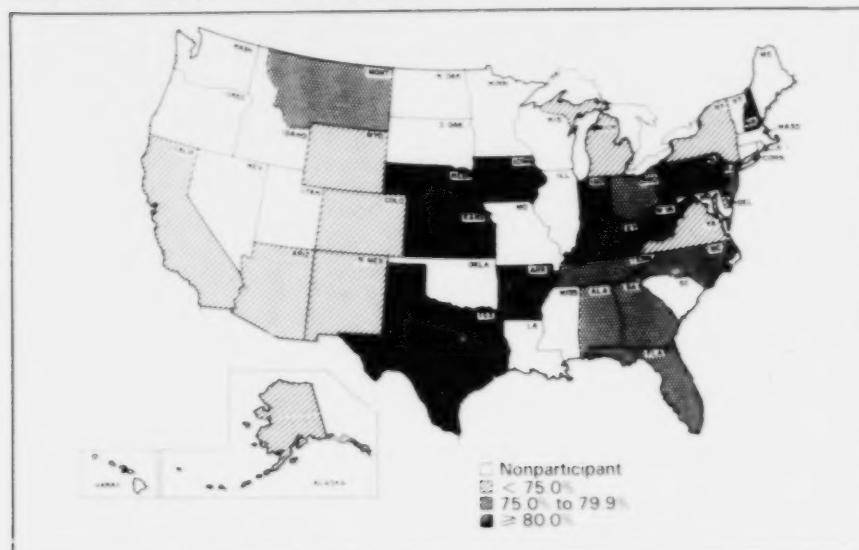
by state, ranging from 68% in California to 89% in Arkansas (Figure 1). Persons who exhibited another particular risk behavior, i.e., smoking, binge drinking, chronic drinking, drunk driving, overweight, or inactivity, were significantly more likely to report not using seat belts than persons who did not exhibit that particular risk behavior. For example, 80% of smokers did not use seat belts, compared with 74% of nonsmokers ($p < 0.05$).

These data were collected in the first phase of the Behavioral Risk Factor Surveillance System, a state-based surveillance system designed to monitor the prevalence of behavioral risk factors, such as smoking and failure to use seat belts. Twenty-eight states and the District of Columbia conducted population-based telephone surveys. A supplemental survey completed coverage of the remaining states.

Reported by Behavioral Epidemiology and Evaluation Br, Div of Health Education, Div of Nutrition, Center for Health Promotion and Education, Div of Injury Epidemiology and Control, Center for Environmental Health, Office of Program Planning and Evaluation, Office of the Director, Div of Safety Research, National Institutes for Occupational Safety and Health, CDC.

Editorial Note: Injuries from motor vehicle collisions (MVCs) are the fourth leading cause of death in the United States (2). In 1984, the most recent year for which complete data are available, 36,271 occupants of motor vehicles (including motorcycles) died on U.S. highways (3). Of these, 14,528 (28%) were under 25 years old, making MVC-associated injuries the leading cause of death among persons aged 5-24 years. In 1984, MVC-associated mortality among persons aged 15-24 years, 36.5 per 100,000, was nearly three times that associated with any other cause and accounted for more than one-third the total mortality in this age group (2). Because MVCs affect the young disproportionately, injuries from MVCs are the

FIGURE 1. Adjusted* percentage of adults reporting using seat belts sometimes, seldom, or never, by state — United States, 1981-1983†



*Adjusted for age, race-ethnicity, sex, and education.

†Adapted with permission (1).

Seat Belt Use - Continued

third leading cause of years of potential life lost (see Table V, p. 311). For 1984, MVC-associated injuries resulted in 1.3 million years of potential life lost before age 65. In addition, injuries from MVCs accounted for 27% of the occupational fatalities in 1984 (4). Of the estimated \$33 billion in direct and indirect costs for occupational injuries in 1984 (5), \$11 billion may be attributable to injuries from MVCs.

During 1982-1984, highway fatalities among occupants of passenger vehicles (excluding motorcycles, trucks, and buses) remained essentially unchanged in the United States (3,6,7). Throughout this period, occupant restraints were used by fewer than 6% of fatally injured persons. Nationwide data for 1985, the first year any state required seat belt use by adults, are not yet available.

Twenty-three states* and the District of Columbia have passed seat belt mandatory-use laws (MULs) for adults; 11 states† are already enforcing their laws with fines. Observational surveys in New York, Michigan, and Nebraska suggest that such laws increase seat belt usage initially (8-10). In New York, for example, observational surveys found that the prevalence of seat belt use increased from 16% before the law took effect to 57% 3 months after the law took effect, this prevalence declining to 46% 9 months after the law took effect. Additional surveys are needed to monitor the long-term impact of the laws.

The observational surveys used to assess the impact of the laws are complemented by self-report surveys, such as the Behavioral Risk Factor Surveys. Self-report surveys underestimate observed failure to use seat belts (11,12), but they can provide detailed demographic and behavioral data. Such data can be useful for planning intervention strategies. Currently, 25 states and the District of Columbia are participating in the Behavioral Risk Factor Surveillance System. In selected states, it will soon be possible to compare demographic characteristics of persons not using seat belts before and after MULs were enforced.

Regardless of how seat belt usage is measured, the goal of intervention is to reduce morbidity and mortality on U.S. highways. MULs appear to have lowered fatalities during the first few months of their enforcement. The New York State Department of Motor Vehicles reported that occupant fatalities decreased 17% for the first 9 months after New York's law was enforced, for the lowest highway fatality rate (per 100 million miles driven) in several decades. If all states enacted MULs, if all states experienced a decrease in highway fatalities comparable to that in New York, and if the decrease in highway fatalities persisted, approximately 4,000 lives could be saved nationwide each year.

Injury data are not currently available for states with MULs. However, the experience in Great Britain strongly suggests that the incidence of severe injuries is reduced by such laws. During 1983, the first year after the British law went into effect, 15% fewer patients were brought to the hospital following MVCs, and 25% fewer required admission than during the preceding year (13).

Nonetheless, MULs alone will not eliminate injuries and deaths on U.S. highways. Better enforcement of existing speeding and drunk-driving laws, augmentation of seat belts with passive restraints (e.g., air bags) and other vehicle-design changes to maximize occupant protection, improved engineering of highways to minimize crash occurrence, and effective public education about all aspects of highway safety are needed to reduce highway fatalities.

*California, Connecticut, Hawaii, Idaho, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Tennessee, Texas, Utah, and Washington.

†California, Connecticut, Hawaii, Illinois, Massachusetts, Michigan, Nebraska, New Jersey, New Mexico, New York, and Texas.

*Seat Belt Use — Continued**References*

1. Goldbaum GM, Remington PL, Powell KE, Hogelin GC, Gentry EM. The Behavioral Risk Factor Surveys Group. Failure to use seat belts in the United States. The 1981-1983 Behavioral Risk Factor Surveys. JAMA 1986;255:2459-62.
2. National Center for Health Statistics. Annual summary of births, marriages, divorces, and deaths. United States, 1984. Monthly Vital Statistics Report 1985;33:20-1.
3. National Center for Statistics and Analysis. Fatal Accident Reporting System, 1984. Washington, D.C.: National Highway Traffic Safety Administration, February 1986 (DOT publication no. HS-806-919).
4. Bureau of Labor Statistics. Occupational injuries and illnesses in the United States, by industry, 1984. Washington, D.C.: U.S. Department of Labor, November 1985 (USDOL publication no. 85-483).
5. National Safety Council. Accident facts, 1985. Chicago, Illinois: National Safety Council, 1985.
6. National Center for Statistics and Analysis. Fatal Accident Reporting System, 1982. Washington, D.C.: National Highway Traffic Safety Administration, May 1984 (DOT publication no. HS-806-566).
7. National Center for Statistics and Analysis. Fatal Accident Reporting System, 1983. Washington, D.C.: National Highway Traffic Safety Administration, March 1984 (DOT publication no. HS-806-705).
8. Rood DH, Kraichy PP, Carubia J. Evaluation of New York State's mandatory occupant restraint law: observational surveys of safety restraint use in New York State. Albany, New York: Institute for Traffic Safety Management and Research, December 1985.
9. Wagenaar AC, Wiviott MBT. Direct observation of seat belt use in Michigan, July 1985. Ann Arbor, Michigan: University of Michigan Transportation Research Institute, August 1985.
10. Williams JB. Safety restraint observation study of front seat passengers and small children. Lincoln, Nebraska: State of Nebraska Office of Highway Safety, December 1985.
11. Waller PF, Barry PZ. Seat belts: a comparison of observed and reported use. Chapel Hill, North Carolina: University of North Carolina Highway Safety Research Center, 1969.
12. Mayas JM, Boyd NK, Collins MA, et al. A study of demographic, situational, and motivational factors affecting restraint usage in automobiles. Washington, D.C.: National Highway Traffic Safety Administration, 1983 (DOT publication no. HS-806-402).
13. Rutherford WH, Greenfield T, Hayes HRM, et al. The medical effects of seat belt legislation in the United Kingdom. London: Her Majesty's Stationery Office, 1985.

*Epidemiologic Notes and Reports***Plasmid-Mediated Tetracycline-Resistant *Neisseria gonorrhoeae* — Georgia, Massachusetts, Oregon**

CDC has confirmed 79 cases of plasmid-mediated tetracycline-resistant *Neisseria gonorrhoeae* infection (TRNG) between February 1985, when it was first identified, and March 14, 1986. Three of the 79 cases, all from Massachusetts, have been confirmed as combined tetracycline-resistant penicillinase-producing *N. gonorrhoeae* (TRNG-PPNG). Sixty-five (82%) of the confirmed TRNG cases were isolated from three states—Georgia (31 cases), Massachusetts (23), and Oregon (10). The Georgia and Massachusetts cases were identified as a result of a collaborative surveillance with CDC. Georgia's Fulton and DeKalb County health

Neisseria gonorrhoeae — Continued

departments (metropolitan Atlanta) conducted active TRNG surveillance in the fall of 1985. Massachusetts has an ongoing statewide surveillance program for gonococcal resistance. The Oregon cases are all from an outbreak among homosexual men in the Portland area, and a brief report follows.

On October 22, 1985, a 32-year-old homosexual male presented to the sexually transmitted disease (STD) clinic in Multnomah County, Oregon, with a 3-day history of urethral discharge and dysuria. A diagnosis of gonorrhea was made, and because the patient was allergic to penicillin, oral tetracycline was prescribed. On returning to the clinic 1 week later, the patient was still symptomatic and had a positive urethral culture for *N. gonorrhoeae*. Sensitivity testing by disk diffusion demonstrated a zone size to tetracycline of 13 mm (sensitive strains were defined as having disk diffusion zone sizes greater than 30 mm). The isolate was confirmed by CDC as high-level TRNG with a minimum inhibitory concentration of 32 µg/ml.

Between October 22, and December 26, 1985, nine other CDC-confirmed TRNG cases were identified at the Multnomah County STD clinic on the basis of disk-diffusion testing results. All patients were homosexual males infected at rectal (three patients), urethral (two), rectal and urethral (four), and pharyngeal (one) sites. All four patients treated with tetracycline alone were treatment failures, and one of these had developed clinical orchitis since his initial clinic visit. All cases were of the same auxotype and serovar class, suggesting the isolates were of a clonal origin. Six additional cases of gonococcal disease, including two out-of-state cases, were diagnosed by contact-tracing. Two cases were tetracycline treatment failures; two were TRNG on the basis of disk-diffusion testing (zone size less than 20 mm); and two were not tested. Nineteen contacts, including 15 bathhouse contacts of one patient, could not be traced due to lack of adequate identifying and locating information.

In response to this outbreak, the Multnomah County Health Department instituted ceftriaxone as the drug of choice for all gonococcal infections among homosexual males. Educational efforts targeted at both the professional and lay community were intensified toward increasing TRNG awareness.

Reported by B. Carlson, F. Myers, L. Mofenson, H. George, Massachusetts State Laboratory Institute; G. Grady, MD, State Epidemiologist, Massachusetts Dept. of Public Health; RW Hill, CP Schade, J. Kolden, J. Mitchell, G. Sawyer, M. Ware, V. Fox, J. Karius, H. Horton, Multnomah County Dept. of Human Svcs.; R. Poole, R. Miller, R. Blumberg, DeKalb County Board of Health, Decatur, Georgia; Sexually Transmitted Disease Laboratory Program, Center for Infectious Diseases, Epidemiology Research Br. Div. of Sexually Transmitted Diseases, Center for Prevention Svcs., CDC.

Editorial Note: The geographic dispersion of TRNG strains since the original MMWR report in September 1985 (1) has been impressive. The rapid onset of the outbreak in Portland and the large number of untraceable contacts elicited from several of the patients underscore the potential for rapid dissemination of new gonococcal strains into a community.

The identification of combined PPNG-TRNG strains in Massachusetts once again demonstrates the ability of *N. gonorrhoeae* to acquire multiple drug-resistant determinants. This includes such combinations as plasmid-mediated resistance (e.g., PPNG-TRNG), plasmid and chromosomally-mediated resistance (e.g., spectinomycin-resistant PPNG) (2,3), or chromosomally-mediated resistance to multiple antibiotics (4).

The largest numbers of TRNG cases were described from areas where active surveillance programs were in operation. With the exception of testing for β -lactamase, most areas in the United States do not routinely perform antimicrobial susceptibility testing on gonococcal isolates. Therefore, the incidence of resistant strains that do not present as treatment failures is not known.

Tetracycline (doxycycline, minocycline) therapy alone is not recommended for the treatment

Neisseria gonorrhoeae — Continued

of gonococcal infections (5). Because of the increasing geographic distribution and the complexity of antimicrobial resistance in *N. gonorrhoeae* and the increasing need for effective surveillance for new cases, CDC is preparing comprehensive guidelines for susceptibility testing.

References

1. CDC. Tetracycline-resistant *Neisseria gonorrhoeae*—Georgia, Pennsylvania, New Hampshire. MMWR 1985;34:563-4, 569-70.
2. Ashford WA, Potts DW, Adams HJU, et al. Spectinomycin-resistant penicillinase-producing *Neisseria gonorrhoeae*. Lancet 1981;ii:1035-7.
3. Pizlak MV, Woodbury C, Berliner D, et al. Resistance trends of *Neisseria gonorrhoeae* in the Republic of Korea. Antimicrob Agents Chemother 1984;25:7-9.
4. Rice RJ, Biddle JW, JeanLouis YA, DeWitt WE, Blount JH, Morse SA. Chromosomally mediated resistance in *Neisseria gonorrhoeae* in the United States: results of surveillance and reporting 1983-1984. J Infect Dis 1986;153:340-5.
5. CDC. 1985 STD treatment guidelines. MMWR 1985;34(suppl 4S):75S-108S.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	19th Week Ending			Cumulative, 19th Week Ending		
	May 10, 1986	May 11, 1985	Median 1981-1985	May 10, 1986	May 11, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	228	174	N	4,530	2,467	N
Aseptic meningitis	90	77	84	1,553	1,325	1,447
Encephalitis: Primary (arthropod-borne & unsp.)	16	19	18	277	336	336
Post-infectious	1	3	3	31	51	35
Gonorrhea: Civilian	14,267	16,144	17,434	296,856	285,377	324,852
Military	309	326	633	5,563	6,751	8,819
Hepatitis: Type A	400	376	428	7,950	7,780	8,304
Type B	495	528	482	9,105	9,065	8,382
Non A, Non B	76	76	N	1,227	1,521	N
Unspecified	108	148	148	1,814	1,965	2,664
Legionellosis	5	12	N	191	222	N
Leprosy	5	3	3	104	149	79
Malaria	11	8	15	256	255	267
Measles: Total*	51	34	64	2,329	1,116	1,116
Indigenous	44	24	N	2,229	888	N
Imported	7	10	N	100	228	N
Meningococcal infections: Total	58	60	69	1,167	1,130	1,308
Civilian	58	59	69	1,165	1,126	1,305
Military	-	1	-	2	4	5
Mumps	106	83	92	1,285	1,518	1,619
Pertussis	34	26	26	778	547	547
Rubella (German measles)	9	24	29	189	175	447
Syphilis (Primary & Secondary): Civilian	539	464	485	9,333	9,087	10,919
Military	4	1	8	76	71	132
Toxic Shock syndrome	9	6	N	136	144	N
Tuberculosis	427	390	458	7,221	7,166	7,964
Tularemia	2	4	4	21	33	40
Typhoid fever	7	6	6	86	105	129
Typhus fever, tick-borne (RMSF)	17	10	10	48	61	63
Rabies, animal	123	106	124	1,959	1,789	2,178

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	15
Botulism: Foodborne	4	Plague	-
Infant	21	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Vt 1, Ala 1)	22
Brucellosis (Tex 1, Hawaii 1)	20	Rabies, human	-
Cholera	-	Tetanus (Pa 1, Ala 1)	15
Congenital rubella syndrome	2	Trichinosis	7
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murrel) (Tex 1)	9
Diphtheria	-		

*Five of the 51 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leptospi- rosis
			Primary	Post-in- fectious	Cum 1986	Cum 1985	A	B	NA/NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	4,530	90	277	31	296,856	285,377	400	495	76	108	5	104
NEW ENGLAND	171	3	9	2	6,674	8,780	8	45	4	7	1	2
Maine	9	-	-	-	347	345	-	4	-	1	-	-
New Hampshire	7	-	2	-	182	178	-	-	-	-	-	-
Vermont	2	-	2	1	99	89	-	2	2	-	-	-
Massachusetts	92	1	2	-	2,887	3,275	7	28	2	6	1	2
Rhode Island	9	2	-	-	623	643	-	-	-	-	-	-
Connecticut	52	-	3	1	2,536	4,250	1	11	-	-	-	-
MID ATLANTIC	1,734	10	44	1	50,985	40,490	19	47	8	21	-	9
District of Columbia	161	7	16	-	5,689	5,680	9	22	3	2	-	1
Maryland	1,217	3	10	-	29,490	18,711	1	3	-	18	-	5
Virginia	269	-	5	-	8,925	7,625	5	10	5	1	-	-
West Virginia	87	-	13	1	8,881	8,474	4	12	-	-	-	1
SOUTHEAST CENTRAL	250	8	55	4	38,625	40,949	24	44	7	7	1	4
Alabama	30	3	16	2	9,303	10,616	13	10	2	1	1	-
Florida	26	-	5	2	4,720	3,922	3	15	-	-	-	-
Georgia	128	3	12	-	10,582	11,387	5	10	0	4	-	3
Louisiana	52	2	21	-	12,034	11,717	3	9	3	2	-	1
Mississippi	14	-	1	-	1,986	3,307	-	-	-	-	-	-
NORTH CENTRAL	82	5	9	6	12,945	14,241	13	9	3	-	1	1
Illinois	38	1	5	-	1,929	2,120	7	1	2	-	-	1
Indiana	7	-	4	-	1,322	1,526	-	3	-	-	-	-
Michigan	20	-	-	-	6,519	6,670	1	3	-	-	-	-
Minnesota	2	-	-	-	118	99	-	-	-	-	-	-
Ohio	1	3	-	-	262	258	2	-	-	-	-	-
Wisconsin	3	-	-	-	930	1,333	1	-	1	-	-	-
Iowa	11	1	-	6	1,865	2,235	2	2	-	-	-	-
SOUTH ATLANTIC	650	20	44	11	73,229	61,125	27	96	8	5	2	7
Delaware	10	-	3	-	1,247	1,380	1	1	-	-	-	-
North Carolina	70	2	11	-	8,969	9,960	-	4	-	-	-	-
South Carolina	86	-	-	-	5,880	5,157	1	2	-	-	-	-
Florida	61	8	16	-	6,324	6,505	-	11	-	2	1	1
Georgia	2	1	6	-	887	911	1	1	1	-	-	-
Alabama	26	2	8	1	12,552	11,143	2	12	1	1	1	-
Louisiana	16	-	-	-	6,762	7,695	1	30	1	-	-	-
Mississippi	87	2	-	-	9,359	11	11	1	1	-	-	-
Texas	292	5	1	10	21,249	18,374	21	24	4	1	-	-
WEST CENTRAL	45	4	19	1	24,968	24,896	1	23	2	1	-	-
Arizona	12	-	8	-	2,894	2,722	1	-	-	-	-	-
California	20	-	1	1	9,804	9,901	-	7	1	1	-	-
Nevada	9	4	9	-	6,979	7,878	-	16	1	-	-	-
Oregon	4	-	1	-	5,291	4,395	-	-	-	-	-	-
SOUTHWEST CENTRAL	349	8	29	1	36,849	39,756	48	39	6	22	-	7
New Mexico	11	-	-	-	2,496	3,800	-	-	-	-	-	-
Texas	54	4	2	-	6,581	8,187	3	9	-	-	-	-
Oklahoma	16	-	6	-	4,277	4,165	5	2	1	2	-	-
Kansas	268	4	21	1	22,495	23,604	40	28	5	20	-	7
MOUNTAIN	122	4	12	1	9,447	9,360	47	41	9	5	-	7
Montana	3	-	-	1	251	275	-	1	-	-	-	-
Wyoming	1	-	-	-	291	326	2	-	-	-	-	-
Idaho	2	-	2	-	201	239	-	-	-	-	-	-
Utah	65	-	2	-	2,444	2,788	4	4	-	2	-	3
Colorado	6	-	1	-	949	1,119	6	1	-	1	-	-
New Mexico	28	2	5	-	3,115	2,711	21	24	7	2	-	2
Arizona	6	-	1	-	393	394	6	3	-	-	-	-
Nevada	11	2	1	-	1,803	1,508	8	8	2	-	-	2
PACIFIC	1,127	28	55	4	43,134	45,780	213	151	29	40	-	73
Washington	34	2	5	-	3,303	3,201	15	30	7	7	-	7
Oregon	24	-	-	-	1,757	2,298	36	20	3	-	-	-
California	1,050	20	48	4	36,438	38,468	162	98	19	33	-	57
Alaska	9	-	2	-	1,127	1,119	-	3	-	-	-	-
Hawaii	10	6	-	-	509	694	-	-	-	-	-	9
Alaska	-	-	-	-	40	69	-	-	-	-	-	1
Hawaii	48	-	3	-	820	1,369	16	8	-	2	-	-
American Samoa	-	-	-	-	79	174	-	-	-	-	-	-
Northern Mariana Islands	-	-	-	-	72	322	3	-	-	-	-	1
Guam	-	-	-	-	14	-	2	-	-	-	-	1

Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	Materna	Measles (Rubeola)				Menin- gococcal infections	Mumps		Pertussis			Rubella			
		Indigenous		Imported *			Total	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		Cum 1986	1986	Cum 1986	Cum 1985										
UNITED STATES	256	44	2,229	7	100	1,116	1,167	106	1,285	34	778	647	9	189	175
NEW ENGLAND	13	-	16	-	-	90	84	-	35	2	45	26	-	1	6
Maine	-	-	-	-	-	-	18	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	-	10	-	15	15	-	1	2
Vt.	1	-	-	-	-	-	11	-	-	-	2	2	-	-	-
Mass.	8	-	15	-	-	88	17	-	1	2	11	4	-	-	4
R.I.	1	-	1	-	-	-	11	-	6	-	1	1	-	-	-
Conn.	3	-	-	-	-	2	24	-	18	-	14	2	-	-	-
MID ATLANTIC	31	4	874	4	11	80	191	4	71	5	92	62	1	26	41
Upstate N.Y.	7	3	7	4†	10	38	63	2	30	1	62	32	1	18	8
N.Y. City	9	-	153	-	1	27	38	-	5	-	3	9	-	5	15
N.J.	3	-	713	-	-	7	27	1	17	1	6	1	-	3	6
Pa.	12	1	1	-	-	8	63	1	19	3	21	20	-	-	12
E.N. CENTRAL	9	-	253	-	2	364	153	69	639	1	146	80	2	9	17
Ohio	2	-	-	-	-	43	67	-	58	-	63	13	-	-	-
Ind.	-	-	-	-	-	1	15	-	16	-	16	11	-	-	-
Ill.	4	-	140	-	-	220	35	56	355	-	18	12	2	6	5
Mich.	3	-	-	-	-	50	35	13	113	1	18	8	-	2	11
Wis.	-	-	113	-	2	50	1	-	97	-	31	36	-	1	1
W.N. CENTRAL	6	6	111	1	11	5	61	1	56	1	46	46	1	8	9
Minn.	2	6	15	-	4	2	13	-	1	-	24	11	-	-	1
Iowa	1	-	-	-	1	-	7	-	10	-	6	3	-	-	-
Mo.	2	-	2	1†	4	2	22	-	13	-	4	9	-	1	-
N. Dak.	-	-	4	-	1	-	-	-	2	-	2	6	-	-	1
S. Dak.	-	-	-	-	-	-	1	-	1	-	3	-	-	-	-
Nebr.	1	-	-	-	-	-	7	-	-	-	1	-	-	-	-
Kans.	-	-	90	-	1	1	11	1	29	1	7	16	1	7	7
S. ATLANTIC	33	9	314	2	26	132	235	6	95	18	239	132	-	6	21
Del.	-	-	1	-	-	-	1	-	-	1	108	-	-	-	-
Md.	5	-	16	1§	6	20	32	-	6	-	24	51	-	-	1
D.C.	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
Va.	6	1	12	-	17	16	43	2	17	-	9	3	-	-	1
W. Va.	-	-	2	-	-	5	3	1	28	1	5	-	-	-	8
N.C.	3	1	1	1§	1	1	39	-	7	-	15	7	-	-	-
S.C.	2	4	268	-	-	24	-	11	2	5	-	-	-	-	2
Ga.	4	2	2	-	1	8	34	2	8	14	65	47	-	-	-
Fla.	13	1	12	-	1	80	57	1	18	-	8	24	-	6	9
E.S. CENTRAL	5	-	1	-	-	-	67	-	15	-	16	6	-	1	1
Ky.	2	-	-	-	-	-	11	-	2	-	1	1	-	1	1
Tenn.	-	-	1	-	-	-	29	-	11	-	5	1	-	-	-
Ala.	2	-	-	-	-	-	20	-	1	-	10	2	-	-	-
Miss.	1	-	-	-	-	-	7	-	1	-	2	-	-	-	-
W.S. CENTRAL	20	-	302	-	24	65	93	6	97	1	27	67	-	35	14
Ark.	-	-	271	-	2	-	12	-	7	-	2	9	-	-	1
La.	4	-	-	-	7	14	-	-	1	4	2	-	-	-	-
Okla.	2	-	-	-	4	-	13	N	N	-	21	56	-	-	-
Tex.	14	-	31	-	18	58	54	6	90	-	-	-	-	35	13
MOUNTAIN	7	12	153	-	8	283	45	12	140	5	91	23	-	1	4
Mont.	-	-	-	-	1	134	5	-	3	-	1	3	-	-	-
Idaho	1	-	-	-	-	21	1	-	2	-	26	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	1	-	2	-	3	5	8	-	6	3	21	8	-	-	-
N. Mex.	-	-	16	-	4	2	5	N	N	-	9	3	-	-	2
Ariz.	2	12	135	-	-	121	13	4	117	-	23	5	-	1	1
Utah	2	-	-	-	-	-	5	R	9	1	10	4	-	-	-
Nev.	1	-	-	-	-	-	6	-	3	-	-	-	-	-	-
PACIFIC	132	13	205	-	18	97	238	8	137	1	76	105	5	102	62
Wash.	11	10	47	-	7	1	30	-	5	-	26	17	-	2	2
Oreg.	9	-	-	-	2	3	19	N	N	-	5	16	-	-	1
Calif.	112	3	139	-	8	86	180	7	119	1	41	67	5	99	41
Alaska	-	-	-	-	-	-	8	-	4	-	1	2	-	-	-
Hawaii	-	-	19	-	1	7	1	1	9	-	3	3	-	1	18
Guam	1	-	3*	-	-	10	-	-	2	-	-	-	-	2	1
P.R.	3	-	8	-	-	46	2	1	16	-	4	1	-	58	8
P.I.	-	-	-	-	-	10	-	-	7	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	9,333	9,087	9	7,221	7,166	21	88	48	1,959
NEW ENGLAND	185	206	-	214	248	-	4	1	2
Maine	11	7	-	19	17	-	-	-	-
N.H.	6	3	-	5	10	-	-	-	-
Vt.	6	-	-	8	4	-	-	-	-
Mass.	89	106	-	107	150	-	3	1	-
R.I.	12	6	-	14	21	-	-	-	1
Conn.	61	84	-	61	46	-	1	-	1
MID ATLANTIC	1,329	1,214	1	1,493	1,335	-	9	1	177
Upstate N.Y.	64	93	-	225	223	-	1	1	26
N.Y. City	742	754	-	714	686	-	4	-	1
N.J.	249	253	-	285	140	-	3	-	4
Pa.	274	114	1	269	286	-	1	-	146
E.N. CENTRAL	389	421	-	919	877	-	5	4	39
Ohio	50	52	-	150	157	-	-	4	3
Ind.	43	35	-	106	108	-	-	-	8
Ill.	217	218	-	404	382	-	-	-	14
Mich.	56	96	-	212	184	-	4	-	5
Wis.	23	20	-	47	46	-	1	-	9
W.N. CENTRAL	99	99	1	196	185	7	4	2	293
Minn.	17	25	1	49	36	-	1	-	31
Iowa	5	14	-	17	29	1	-	-	69
Mo.	51	41	-	95	85	6	3	-	29
N. Dak.	2	-	-	3	2	-	-	-	69
S. Dak.	1	4	-	9	7	-	-	-	65
Nebr.	8	6	-	4	8	-	-	-	5
Kans.	15	9	-	19	18	-	-	2	25
S. ATLANTIC	2,621	2,282	-	1,374	1,463	4	9	15	460
Del.	12	16	-	16	16	-	-	-	-
Md.	176	158	-	96	129	1	1	1	278
D.C.	129	129	-	51	71	-	1	-	-
Va.	159	123	-	131	115	1	2	3	77
W. Va.	8	4	-	47	34	-	1	1	10
N.C.	192	258	-	207	173	1	2	2	1
S.C.	258	284	-	159	177	-	-	7	13
Ge.	383	-	-	188	225	1	-	1	60
Fla.	1,304	1,310	-	479	523	-	2	-	21
E.S. CENTRAL	616	777	1	633	630	3	-	10	120
Ky.	26	31	-	161	125	2	-	1	34
Tenn.	237	219	-	184	185	1	-	3	56
Ala.	211	259	1	204	220	-	-	2	30
Miss.	142	268	-	84	100	-	-	4	-
W.S. CENTRAL	1,975	2,296	3	880	799	5	5	14	289
Ark.	93	113	-	95	83	3	-	-	64
La.	315	380	-	171	119	-	-	-	6
Okla.	56	63	1	82	92	2	1	11	23
Tex.	1,511	1,740	2	532	505	-	4	3	196
MOUNTAIN	215	292	2	155	170	1	4	1	335
Mont.	2	1	-	7	19	-	-	-	124
Idaho	2	2	-	5	6	-	-	-	-
Wyo.	-	-	-	-	4	-	-	-	-
Colo.	67	67	1	4	18	-	1	-	154
N. Mex.	26	36	-	34	34	-	-	-	3
Ariz.	94	164	1	76	78	-	1	-	54
Utah	4	3	-	14	5	-	2	-	-
Nev.	20	14	-	15	6	-	-	-	-
PACIFIC	1,904	1,500	1	1,357	1,453	1	46	-	244
Wash.	48	53	-	76	77	-	2	-	-
Oreg.	39	33	-	48	48	-	-	-	-
Calif.	1,800	1,385	1	1,141	1,218	-	41	-	236
Alaska	-	1	-	24	50	1	1	-	8
Hawaii	17	28	-	68	66	-	2	-	-
Guam	1	2	-	-	16	-	-	-	-
P.R.	301	315	-	91	113	-	2	-	17
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	112	22	-	10	26	-	27	-	-
Amer. Samoa	-	-	-	2	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
May 10, 1986 (19th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	644	461	125	22	20	16	47	S ATLANTIC	1,304	808	322	100	39	33	53
Boston, Mass.	164	115	33	6	7	3	19	Atlanta, Ga.	173	100	53	14	6	-	2
Bridgeport, Conn.	44	26	13	1	3	1	2	Baltimore, Md.	210	123	64	14	4	5	4
Cambridge, Mass.	27	17	8	2	-	-	3	Charlotte, N.C.	85	49	23	6	5	2	2
Fall River, Mass.	33	24	8	1	-	-	-	Jacksonville, Fla.	132	88	26	9	9	-	8
Hartford, Conn.	68	43	15	4	1	5	2	Miami, Fla.	72	45	21	2	1	3	4
Lowell, Mass.	28	22	4	1	1	-	2	Norfolk, Va.	47	27	12	3	2	3	4
Lynn, Mass.	23	17	6	-	-	-	1	Richmond, Va.	99	64	24	6	3	2	10
New Bedford, Mass.	21	20	1	-	-	-	1	Savannah, Ga.	53	39	9	3	1	1	7
New Haven, Conn.	44	30	6	2	4	-	3	St. Petersburg, Fla.	120	101	11	4	1	3	7
Providence, R.I.	47	32	12	2	-	-	1	Tampa, Fla.	78	45	19	5	-	7	4
Somerville, Mass.	9	4	4	-	1	-	1	Washington, D.C.	211	118	52	28	6	7	5
Springfield, Mass.	47	37	4	2	2	2	7	Wilmington, Del.	24	9	8	6	1	-	-
Waterbury, Conn.	31	26	4	1	-	-	1								
Worcester, Mass.	58	48	7	-	1	2	4								
MID ATLANTIC	2,613	1,714	538	220	73	68	116	ES CENTRAL	800	498	183	61	26	32	36
Albany, N.Y.	58	41	9	3	3	2	1	Birmingham, Ala.	138	81	32	10	5	10	5
Allentown, Pa.	18	16	2	-	-	-	-	Chattanooga, Tenn.	51	30	10	5	1	5	-
Buffalo, N.Y.	132	90	29	10	2	-	-	Knosville, Tenn.	89	67	11	5	4	2	6
Camden, N.J.	41	21	14	2	1	3	1	Louisville, Ky.	105	58	31	10	1	5	8
Elizabeth, N.J.	22	17	4	1	-	-	-	Memphis, Tenn.	210	134	49	18	7	2	9
Erie, Pa.	41	26	13	-	1	1	-	Mobile, Ala.	49	26	14	4	2	3	1
Jersey City, N.J.	60	36	14	3	2	5	-	Montgomery, Ala.	38	20	11	3	4	-	2
Newark, N.J.	1,279	810	269	138	38	24	56	Nashville, Tenn.	120	82	25	6	2	5	5
Paterson, N.J.	55	25	17	8	3	2	1	W.S. CENTRAL	1,232	731	279	119	58	43	51
Philadelphia, Pa.	19	14	1	4	-	-	-	Austin, Tex.	52	28	13	6	4	1	2
Pittsburgh, Pa.	402	261	92	22	11	16	27	Baton Rouge, La.	27	18	1	4	1	3	1
Reading, Pa.	71	54	12	3	-	-	-	Corpus Christi, Tex.	44	27	10	2	3	2	2
Rochester, N.Y.	37	26	7	4	-	-	-	Dallas, Tex.	191	107	42	25	7	10	9
Schenectady, N.Y.	135	95	18	9	8	5	7	El Paso, Tex.	43	20	14	3	4	-	2
Scranton, Pa.	27	26	1	-	-	-	-	Fort Worth, Tex.	91	54	27	6	-	4	2
Syracuse, N.Y.	21	18	3	-	-	-	-	Houston, Tex.	292	156	77	26	20	13	8
Trenton, N.J.	94	63	19	6	2	4	1	Little Rock, Ark.	73	53	9	7	2	2	5
Utica, N.Y.	52	32	10	6	1	3	-	New Orleans, La.	115	65	28	16	5	1	-
Yonkers, N.Y.	27	26	1	-	-	-	-	San Antonio, Tex.	158	106	25	14	10	3	16
	22	17	3	1	1	-	-	Shreveport, La.	51	33	12	5	-	1	-
								Tulsa, Okla.	95	64	21	5	2	3	4
EN CENTRAL	2,101	1,371	466	136	52	76	78	MOUNTAIN	681	436	134	62	27	21	31
Akron, Ohio	47	28	12	3	2	-	-	Albuquerque, N.Mex.	94	63	13	11	4	2	2
Canton, Ohio	38	26	10	2	-	-	-	Colorado Springs, Colo.	43	27	9	2	4	1	3
Chicago, Ill.	566	362	126	45	10	23	17	Denver, Colo.	123	83	19	12	5	4	4
Cincinnati, Ohio	121	83	29	4	2	3	10	Las Vegas, Nev.	81	43	23	10	3	2	3
Cleveland, Ohio	145	87	41	6	5	6	3	Ogden, Utah	22	14	5	2	-	1	2
Columbus, Ohio	133	80	30	8	8	7	8	Phoenix, Ariz.	148	91	27	15	9	6	6
Dayton, Ohio	105	58	34	9	4	-	3	Pueblo, Colo.	49	21	7	1	-	-	3
Detroit, Mich.	212	142	33	21	5	11	4	Salt Lake City, Utah	29	27	12	5	2	3	1
Evansville, Ind.	31	25	5	-	-	-	-	Tucson, Ariz.	92	67	19	4	-	2	7
Fort Wayne, Ind.	51	39	9	1	1	1	2								
Gary, Ind.	17	9	2	4	1	1	1	PACIFIC	1,844	1,190	358	172	61	57	90
Grand Rapids, Mich.	52	36	6	4	2	4	3	Berkeley, Calif.	21	14	5	2	-	-	1
Indianapolis, Ind.	153	91	43	9	4	6	3	Fresno, Calif.	56	42	8	1	3	2	6
Madison, Wis.	36	22	8	2	1	3	3	Glendale, Calif.	24	17	6	1	-	-	1
Milwaukee, Wis.	125	96	20	3	3	3	2	Honolulu, Hawaii	63	43	15	1	1	3	1
Peoria, Ill.	48	30	11	4	2	1	3	Long Beach, Calif.	79	49	15	7	5	3	8
Rockford, Ill.	42	29	7	4	1	1	2	Los Angeles, Calif.	535	317	114	69	23	6	17
South Bend, Ind.	45	32	11	-	1	-	-	Oakland, Calif.	62	37	9	7	-	9	1
Toledo, Ohio	83	60	18	4	-	1	4	Pasadena, Calif.	28	21	3	1	-	3	2
Youngstown, Ohio	51	36	11	3	-	1	3	Portland, Ore.	119	85	24	5	4	1	7
W.N. CENTRAL	696	469	135	44	15	33	23	Sacramento, Calif.	146	103	18	13	5	7	14
Des Moines, Iowa	70	45	17	4	1	3	2	San Diego, Calif.	143	95	31	7	7	3	14
Duluth, Minn.	31	24	6	1	-	-	-	San Francisco, Calif.	126	78	23	20	1	4	2
Kansas City, Kans.	30	19	8	3	-	-	-	San Jose, Calif.	167	103	33	19	5	7	3
Kansas City, Mo.	118	78	22	10	4	4	5	Seattle, Wash.	154	98	36	11	5	4	5
Lincoln, Nebr.	34	24	6	2	1	1	1	Spokane, Wash.	70	51	11	4	2	2	7
Minneapolis, Minn.	91	54	19	10	2	6	4	Tacoma, Wash.	51	37	7	4	-	3	1
Omaha, Nebr.	76	55	11	5	1	4	4								
St. Louis, Mo.	127	89	21	6	2	9	3								
St. Paul, Minn.	67	49	12	1	2	3	2								
Wichita, Kans.	52	32	13	2	2	3	-								
TOTAL	11,915	7,678	2,540	936	371	379	525								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

‡ Data not available. Figures are estimates based on average of past 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES (Total)	11,761,000	866.7
Unintentional injuries‡ (E800-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E978)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity†† (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*For details of calculation, see footnotes for Table V, *MMWR* 1986,35:27.

†Cause-specific mortality rates as reported in the MVSIR are compiled from a 10% sample of all deaths.

‡Equivalent to accidents and adverse effects.

††Category derived from disorders relating to short gestation and respiratory distress syndrome.

Epidemiologic Notes and Reports

Campylobacter Outbreak Associated with Raw Milk Provided on a Dairy Tour — California

On October 3, 1985, students and teachers from northern California, and some of their family members, made a field trip to a San Joaquin County dairy. Of the 50 attendees from whom information was available, 23 (46%) became ill with *Campylobacter jejuni* infection.

Twenty-three (59%) of the 39 attendees who drank raw milk, and none of the 11 who did not drink it, became ill ($p = 0.0005$). Included among the cases was an infant who had been

Campylobacter Outbreak — Continued

almost exclusively breast-fed and became ill after drinking a bottle filled with raw milk at the dairy. In addition, secondary cases occurred in two women who had not visited the dairy but who tended an infant who drank raw milk and developed campylobacter gastroenteritis. Stool cultures from one asymptomatic and eight ill persons grew *C. jejuni*. Neither the cows nor milk were cultured.

Of the 23 ill field-trip attendants, 96% reported diarrhea; 35%, abdominal cramps; 35%, fever; 26%, vomiting; and 22%, bloody diarrhea. Incubation periods ranged from 1 day to 10 days, but were 3 or 4 days in most cases. Symptoms most commonly lasted 5 days.

Adapted from California Morbidity (February 7, 1986) as reported by B Benda, Contra Costa County Health Dept, J Pollak, R Benjamin, MD, T Livermore, MD, Alameda County Health Dept, H Mitchell, MD, San Joaquin Local Health District, SB Werner, MD, J Chin, MD, State Epidemiologist, California Dept of Health Svcs, Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Numerous outbreaks of enteric diseases have occurred among schoolchildren given raw milk while on field trips to dairies in the United States (1-5). As a result, in January 1985, the U.S. Food and Drug Administration (FDA) issued a "milk advisory" to all state school officers recommending that children not be permitted to sample raw milk on such visits.

Healthy lactating cows can carry *C. jejuni* in the intestinal tract, providing an extrinsic source of contamination. In one study of 193 healthy dairy cows at three dairies, 77 (40%) had positive rectal cultures (6). In another study of 477 dairy cows, 69 (14%) had *C. jejuni* cultured from bile (7). In addition, cows with no evidence of illness can excrete *Campylobacter* directly into their milk as a result of mammary infection (8). Fourteen (61%) of 23 *Campylobacter* outbreaks reported to CDC from 1980 to 1982 were traced to consumption of raw milk (5). Since culture of diarrheal stools for *C. jejuni* became common, many raw milk-associated *Campylobacter* outbreaks involving thousands of cases have been reported (9,10).

Milk is an excellent vehicle for infection, because its fat content protects pathogens from gastric acid and because, being fluid, it has a relatively short gastric transit time (11). Present technology cannot produce raw milk that can be assured to be free of pathogens; only with pasteurization is there this assurance (11). Since 1983, when Scotland banned the sale of raw milk, milkborne infection has decreased markedly (12).

References

1. Korlath JA, Osterholm MT, Judy LA, Forfang JC, Robinson RA. A point-source outbreak of campylobacteriosis associated with consumption of raw milk. *J Infect Dis* 1985;152:592-6.
2. CDC. Campylobacteriosis associated with raw milk consumption — Pennsylvania. *MMWR* 1983; 32:337-8, 344.
3. California Department of Health Services. Campylobacter outbreak associated with certified raw milk products, L.A. County. *California Morbidity* #23, June 15, 1984.
4. California Department of Health Services. Campylobacter outbreak after consuming raw milk on a field trip to a dairy. FDA action on this recently identified public health problem. *California Morbidity* #9, March 8, 1985.
5. Finch MJ, Blake PA. Foodborne outbreaks of campylobacteriosis: the United States experience, 1980-1982. *Am J Epidemiol* 1985;122:262-8.
6. Martin WT, Patton CM, Morris GK, Potter ME, Puhr ND. Selective enrichment broth medium for isolation of *Campylobacter jejuni*. *J Clin Microbiol* 1983;17:853-5.
7. Warner DP, Bryner JH, Beran GW. Epidemiologic study of campylobacteriosis in Iowa cattle and the possible role of unpasteurized milk as a vehicle of infection. *Am J Vet Res* 1986;47:254-8.
8. Hutchinson DN, et al. Evidence of udder excretion of *Campylobacter jejuni* as the cause of milk-borne *Campylobacter* outbreak. *J Hyg Cambridge* 1985;94:205-5.
9. Jones DM, Robinson DA, Eldridge J. Serological studies in two outbreaks of *Campylobacter jejuni* infection. *J Hyg Cambridge* 1983;87:163-70.
10. Robinson DA, Jones DM. Milk-borne *Campylobacter* infection. *Br Med J* 1981;282:1374-6.
11. Potter ME, Kaufmann AF, Blake PA, Feldman RA. Unpasteurized milk: the hazards of a health fetish. *JAMA* 1984;252:2048.
12. Sharp JCM, Paterson GM, Barrett NJ. Pasteurisation and the control of milkborne infection in Britain. *Br Med J* 1985;291:463-4.

Excavation Cave-in Fatalities — Texas, 1976-1985

A review of death certificates in Texas for 1976-1985 identified 93 fatalities resulting from 81 excavation cave-ins among male workers in that state (Figure 2). Thirty-five fatalities occurred in 30 incidents during the first 5 years (1976-1980), and 58 fatalities occurred in 51 incidents during the last 5 years (1981-1985). This is a 66% increase in the number of such deaths during the second 5 years.

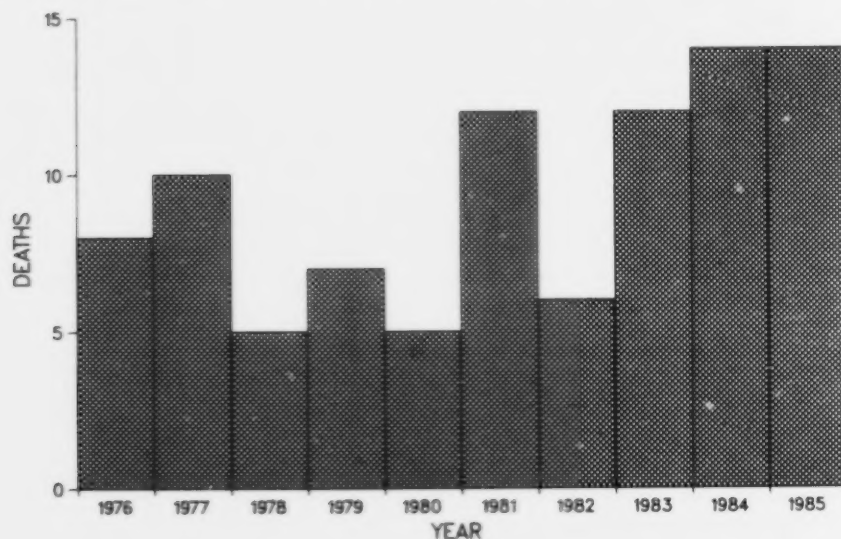
The average age at death for all 93 workers was 33.1 years. Forty-eight (52%) of the workers killed were Hispanic (32 of whom were not U.S. citizens); 30 (32%) were white non-Hispanic; and 15 (16%) were black. The cave-in incidents occurred in 40 of the 254 Texas counties, with 21 worker fatalities occurring in the Dallas-Fort Worth metropolitan statistical area (MSA) and 21 in the Houston MSA. Together, these two locations accounted for 45% of the fatalities.

Based on information recorded on the death certificates regarding occupation and industry, 74 (80%) fatalities took place during construction activities; eight (9%), in utility-related jobs; five (5%), among persons described only as "laborers"; and six (6%), among persons with other, unrelated occupations (e.g., "student").

Reported by L. Suarez, MS, L. Carmichael, WE Barrington, MPH, WD Carroll, MPH, CE Alexander, MD, State Epidemiologist, Texas Dept of Health, Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: In a recent report from the National Institute for Occupational Safety and Health (NIOSH) of four fatalities caused by excavation cave-ins, investigators concluded that adherence to safe work practices and especially to the shoring (bracing)/sloping of excavation walls would have reduced the inherent risk in each case (1). Although no review of the work

FIGURE 2. Number of excavation cave-in fatalities, by year — Texas, 1976-1985



Cave-in Fatalities — Continued

practices that preceded the cave-in fatalities in Texas was possible, the data available from death certificates are useful for directing prevention-oriented activities, because they document a temporal increase and indicate the location and activities involved in such fatalities in the state.

These cave-in fatalities were identified through the manual review of death certificates in Texas for males 16 years of age and older within selected cause-of-death codes.* This method probably underreports the total number of cases because cave-in fatalities can be misclassified and inadequately described on death certificates. The 66% increase in fatalities observed for 1981 through 1985 may be the result of more accurate recording of cause-of-death information during those years or may represent a real increase in the number of fatalities because of decreased attention to safety (shoring/sloping). It could also be explained by an expansion in construction activity or in the population at risk in the state.

The risk of excavation cave-ins can be reduced through greater employer recognition of and adherence to Occupational Safety and Health Administration (OSHA) standards† and NIOSH recommendations (2) for shoring/sloping the walls of excavation sites. The current OSHA standards specify that:

1. The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.
2. Sides of trenches in unstable or soft material 5 feet or more in depth shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect employees working within them.
3. Excavations (including trenches) adjacent to backfilled areas or subjected to vibrations from railroads, highway traffic, or operation of machinery shall have additional shoring and bracing precautions taken.

NIOSH and the National Bureau of Standards (NBS) recommend that:

1. Shoring systems or sloping of the walls be used in all excavations 5-24 feet deep in any type of soil, except solid, stable rock.
2. Appropriate shoring, shielding, or sloping requirements for all excavations deeper than 24 feet (except those in unfractured rock) be determined by an engineer qualified to make these determinations.
3. All employers engaged in excavation activities familiarize themselves with the provisions of the NBS/NIOSH document, *Development of Draft Construction Safety Standards for Excavations* (2), and implement them as safe work practices in conjunction with compliance to the existing OSHA standards.

Other states are encouraged to undertake studies such as this for the surveillance of occupational fatalities, not only from excavation cave-ins but from other causes as well. The Texas investigators used death certificates; additional records (e.g., workers' compensation claim files) may also be useful.

References

1. CDC. Worker fatalities due to excavation cave-ins. MMWR 1986;35:49-50.
2. National Institute for Occupational Safety and Health/National Bureau of Standards. Development of draft construction safety standards for excavations. Vols. I and II. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1983. NBSIR 83-2693 (DHHS [NIOSH] publication no. 83-103).

*Eighth Revision, International Classification of Diseases, E913.9, and The International Classification of Diseases, 9th Revision, E913.3

†29 CFR 1926.651 and 1926.652

Addendum: Vol. 35, No. 17, p. 275**Rubella Vaccination during Pregnancy — United States, 1971-1985**

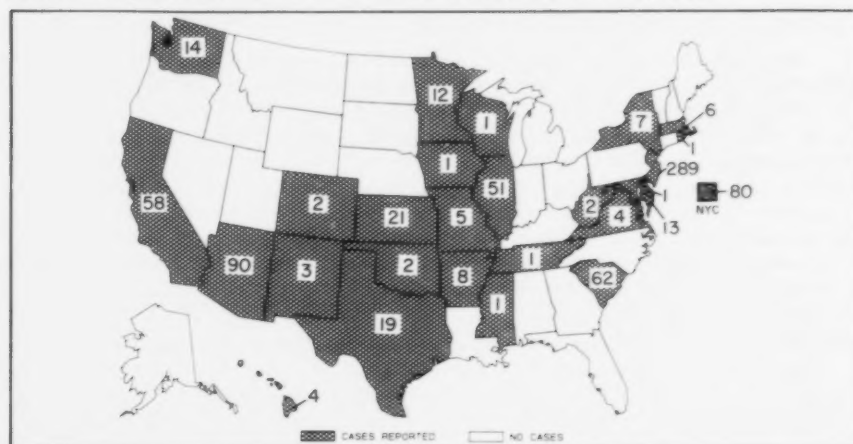
Thirty susceptible women elected to terminate their pregnancies (Table 3). Products of conception were available for viral isolation studies from 19 such women and from two women who had miscarriages. Rubella virus has now been isolated from the products of conception in one (3%) of 34 cases involving susceptible women (21 cases reported to CDC and 13 reported in the medical literature) (1-3).

Reported by Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, CDC.

References

1. Banatvala JE, O'Shea S, Best JM, Nicholls MWN, Cooper K. Transmission of RA 27/3 rubella vaccine strain to products of conception [Letter]. *Lancet* 1981;i:392.
2. Furukawa T, Miyata T, Kondo K, Kuno K, Isomura S, Takekoshi T. Clinical trials of RA27/3 (Wistar) rubella vaccine in Japan. *Am J Dis Child* 1969;118:262-3.
3. Bernstein DI, Ogra PL. Fetomaternal aspects of immunization with RA 27/3 live attenuated rubella virus vaccine during pregnancy. *J Pediatr* 1980;97:467-70.

FIGURE 1. Reported measles cases — United States, weeks 15-18, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/40003 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

**BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26**

MMWR NEWAR000N DR 376 F 1 *:
NEWARK PUBLIC LIBR *:
5 WASHINGTON ST *:
NEWARK NJ 07101 *:
*:

35/20

CENTERS FOR DISEASE CONTROL

May 23, 1986 / Vol. 35 / No. 20

MMWR

- 317 ACIP: Prevention and Control of Influenza
 331 Update: Measles — Canada, 1986
 334 Classification System for HTLV-III/LAV Infections

MORBIDITY AND MORTALITY WEEKLY REPORT

NEWARK PUBLIC LIBRARY

Recommendations of the ImmunizationPractices Advisory Committee (ACIP)

JUN 19 1986

Prevention and Control of InfluenzaU. S. GOVT. PUBLS.
JUN 19 1986

These recommendations of the Immunization Practices Advisory Committee update for 1986-1987 the information on the vaccine and antiviral agent available for control of influenza (superseding MMWR 1985;34:261-8, 273-5). Changes include addition of statements about: (1) updating of the influenza strains in the vaccine for 1986-1987; (2) immunization and amantadine prophylaxis for household members who provide home care for high-risk persons; (3) optimal time for conducting routine vaccination programs; (4) concurrent administration of influenza vaccine and childhood vaccines; (5) immunization of children receiving long-term aspirin therapy; and (6) other sources of information about influenza and control measures.

INTRODUCTION

Influenza A viruses are classified into subtypes based on two antigens: hemagglutinin (H) and neuraminidase (N). Three subtypes of hemagglutinin (H1, H2, H3) and two subtypes of neuraminidase (N1, N2) are recognized among influenza A viruses that have caused widespread human disease. Immunity to these antigens, especially hemagglutinin, reduces the likelihood of infection and the severity of disease if infection does occur. However, there may be sufficient antigenic variation (antigenic drift) within the same subtype over time, so that infection or vaccination with one strain may not induce immunity to distantly related strains of the same subtype. Although influenza B viruses have shown much more antigenic stability than influenza A viruses, antigenic variation does occur. For these reasons, major epidemics of respiratory disease caused by new variants of influenza continue to occur, and the antigenic characteristics of current strains provide the basis for selecting virus strains included in each year's vaccine.

Typical influenza illness is characterized by abrupt onset of fever, sore throat, and nonproductive cough and, unlike many other common respiratory infections, can cause extreme malaise lasting several days. More severe disease can result from invasion of the lungs by influenza virus (primary viral pneumonia) or from secondary bacterial pneumonia. High attack rates of acute illness and the occurrence of lower respiratory tract complications usually result in dramatic increases in visits for outpatient care in physicians' offices, walk-in clinics, and emergency rooms by persons of all ages.

Individuals at high risk for influenza are poorly able to cope with the disease because of their ages or underlying health problems. Such high-risk persons are more likely to require

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

ACIP: Influenza — Continued

hospitalization if infected. In one recent study, for example, hospitalization rates for adults with high-risk medical conditions increased during major epidemics by about twofold to fivefold in different age groups, reaching a maximum rate of about 800 excess hospitalizations per 100,000 high-risk persons. During influenza epidemics, normally healthy children and adults may also be hospitalized for influenza-related complications, but the relative increase in hospitalization rates is much less than for the high-risk groups.

A further indication of the impact of influenza epidemics is the significant increase in mortality that often occurs. Such excess mortality is not only a direct result of pneumonia, but also of cardiopulmonary or other chronic diseases that are exacerbated during influenza infection. Ten thousand or more excess deaths have been documented during each of 18 different epidemics from 1957 to 1985, with more than 40,000 excess deaths in each of several recent epidemics. Excess mortality was again documented during the 1985-1986 influenza season. Approximately 80%-90% of the excess deaths attributed to pneumonia and influenza during epidemics have occurred among persons 65 years of age or older, although influenza-associated deaths among children or previously healthy adults under 65 years of age are reported during major epidemics.

Because of the increasing proportion of elderly persons in the U.S. population, and because age and its associated chronic diseases are risk factors for severe influenza illness, the future toll from influenza may increase unless control measures are used more vigorously than in the past. Younger populations at high risk for influenza-related complications are also increasing, due to such factors as the success of intensive-care units for neonates; better management of diseases, such as cystic fibrosis; and better survival rates for organ-transplant recipients.

OPTIONS FOR THE CONTROL OF INFLUENZA

The two presently available control measures for influenza are immunoprophylaxis with vaccines and chemoprophylaxis or therapy with the antiviral drug, amantadine hydrochloride (Symmetrel®).

Vaccination of high-risk persons each year before the influenza season is the single most important influenza-control measure. Vaccination is likely to be highly cost-effective because (1) it is targeted at individuals for whom infection may have the most severe consequences and for whom there is often a higher-than-average potential for infection, and (2) it may be administered when such high-risk individuals routinely have contact with the health-care delivery system before the influenza season for causes other than acute respiratory infection, thereby permitting vaccine administration without special visits to physicians' offices or clinics. Recent reports indicate that achieving high vaccination rates in closed populations appears to induce herd immunity when there is a good match between vaccine and epidemic strains of virus. When outbreaks of influenza A do occur in closed populations, they may be stopped by amantadine prophylaxis of all residents. Other indications for prophylaxis (whether with vaccine or antiviral drug) include the strong desire of individuals to avoid influenza infection, reduce the severity of disease, or reduce their chances of transmitting influenza to high-risk persons with whom they have frequent contact in medical-care settings or at home.

Specific therapy for influenza A by treatment with amantadine is most likely to benefit individuals who promptly seek medical attention because of the abrupt onset of an acute respiratory infection with troublesome symptoms during an influenza A epidemic. For high-risk individuals for whom influenza vaccine has not been used or has not prevented infection, early treatment with amantadine should be effective in reducing the severity and duration of illness.

Influenza is known to cause nosocomial infections, and measures, such as isolating ill patients individually or in groups, limiting visitors, and avoiding elective admissions and surgery during an influenza outbreak, have been suggested to limit further virus transmission within

ACIP: Influenza — Continued

institutions or hospitals. However, unlike amantadine use for outbreak control during influenza A epidemics, the effectiveness of these measures has not been demonstrated. Likewise, the effect on virus transmission of occasionally closing schools or classrooms during explosive outbreaks has not been established.

INACTIVATED VACCINE FOR INFLUENZA TYPES A AND B

Influenza vaccines are made from highly purified egg-grown viruses that have been rendered noninfectious ("inactivated"). Most vaccines distributed in the United States have been chemically treated ("split virus" preparations) to reduce the incidence of febrile reactions among children. Influenza vaccine contains three virus strains (two type A and one type B) representing influenza viruses presently circulating in the world and believed likely to occur in the United States next winter. The potency of present vaccines is such that (1) minimal systemic or febrile reactions are caused by the vaccine, but (2) nearly all vaccinated young adults develop hemagglutination-inhibition antibody titers likely to protect them against infection by strains like those in the vaccine and, often, by related variants that emerge. The elderly, the very young, and patients with certain chronic diseases may develop lower postvaccination antibody titers than young adults and thus be more susceptible to upper respiratory tract infection. Under these circumstances, however, influenza vaccine can still be effective in preventing lower respiratory tract involvement or other complications of influenza. Influenza vaccine will not prevent primary illnesses caused by other respiratory pathogens.

RECOMMENDATIONS FOR USE OF INACTIVATED VACCINE

Influenza vaccine is recommended for high-risk persons 6 months of age or older (see below), for their medical-care personnel and primary providers of care in the home setting, for children receiving long-term aspirin therapy, and for other persons wishing to reduce their chances of acquiring influenza illness. Vaccine composition for 1986-1987 and doses are given in Table 1. Guidelines for the use of vaccine are given below for different segments of

TABLE 1. Influenza vaccine* dosage, by patient age — United States, 1986-1987 season

Age group	Product†	Dosage§	No. doses	Route¶
6-35 mos.	Split virus only	0.25 ml	2**	IM
3-12 yrs.	Split virus only	0.5 ml	2**	IM
> 12 years	Whole or split virus	0.5 ml	1	IM

*Contains 15 µg each of A/Chile/1/83(H1N1), A/Mississippi/1/85(H3N2), and B Ann Arbor/1/86 hemagglutinin antigens in each 0.5 ml. Manufacturers include Parke-Davis (Fluogen® split), Squibb-Connaught (Fluzone® whole or split), Wyeth Laboratories (Influenza Virus Vaccine, Trivalent® split). Manufacturer's phone numbers to obtain further product information are: Parke-Davis—(800) 223-0432; Squibb-Connaught—(800) 822-2463; Wyeth—(800) 321-2304.

†Because of the lower potential for causing febrile reactions, only split (subviral) vaccine should be used in children. Immunogenicity and reactogenicity of split and whole virus vaccines are similar in adults when used according to the recommended dosage.

§Due to the accessibility of children at times when pediatric vaccines are administered, it may be desirable to simultaneously administer, particularly to high-risk children, influenza vaccine at the same time as routine pediatric vaccines or pneumococcal polysaccharide vaccine, but in different sites. Although studies have not been done, no diminution of immunogenicity or enhancement of adverse reactions should be expected.

¶The recommended site of vaccination is the deltoid muscle for adults and older children. The preferred site for infants and young children is the anterolateral aspect of the thigh.

**Two doses are recommended for maximum protection, with at least 4 weeks between doses. However, if the individual received at least one dose of influenza vaccine recommended from 1978-1979 to 1984-1985, one dose is sufficient.

ACIP: Influenza - Continued

the population. *Remaining 1985-1986 vaccine should not be used.* Although the current influenza vaccine often contains one or more antigens used in previous years, immunity declines during the year following vaccination. *Therefore, a history of vaccination in any previous year with a vaccine containing one or more antigens included in the current vaccine does not preclude the need for revaccination for the 1986-1987 influenza season to provide optimal protection.*

During the past decade, data on influenza vaccine immunogenicity and side effects were generally obtained when vaccine was administered by the intramuscular route. Because of a lack of adequate evaluation of recent influenza vaccines administered by other routes to high-risk persons, the preferred route of vaccination is intramuscular. The recommended site of vaccination is the deltoid muscle for adults and older children and the anterolateral aspect of the thigh for infants and young children.

High-Priority Target Groups for Special Vaccination Programs

1. **Groups at greatest medical risk of influenza-related complications.** Based on observations of morbidity and mortality, high-risk groups have been classified on the basis of priority, so available resources can be particularly directed toward organizing special programs to provide vaccine to those who may derive the greatest benefit. Active, targeted vaccination efforts are most necessary for the following two high-risk groups, with the objective of vaccinating at least 80% of each group.

- a. Adults and children with chronic disorders of the cardiovascular or pulmonary systems that are severe enough to have required regular medical follow-up or hospitalization during the preceding year.
- b. Residents of nursing homes and other chronic-care facilities (i.e., institutions housing patients of any age with chronic medical conditions).

2. **Groups at moderate medical risk of influenza-related complications.** After considering the needs of the above two target groups (1a and 1b), programs are desirable that make vaccine readily available to persons at moderately increased risk of serious illness compared with the general population. These include:

- a. Otherwise healthy individuals 65 years of age or older.
- b. Adults and children with chronic metabolic diseases (including diabetes mellitus), renal dysfunction, anemia, immunosuppression, or asthma that are severe enough to require regular medical follow-up or hospitalization during the preceding year.
- c. Children receiving long-term aspirin therapy, who may be at risk of developing Reye syndrome following influenza infection.

3. **Groups potentially capable of nosocomial transmission of influenza to high-risk persons.** During many winters, nosocomial outbreaks of influenza are reported. Although not proven, it is reasonable to believe that medical personnel who provide care to high-risk persons in health-care facilities, or family members, volunteer workers, or others who are the primary providers of care to a high-risk person in the home setting, can transmit influenza infections to high-risk patients while they are themselves incubating infection, undergoing subclinical infection, or working despite the existence of mild symptoms. The potential for introducing influenza to high-risk persons should be reduced by vaccinating:

- a. Physicians, nurses, and other personnel who have extensive contact with high-risk patients (e.g., primary-care and certain specialty clinicians, staff of intensive-care units, particularly neonatal intensive-care units).
- b. Providers of care to high-risk persons in the home setting (e.g., family members, visiting nurses, volunteer workers).

*ACIP: Influenza — Continued***Vaccination of Other Groups**

1. **General population.** Physicians should administer vaccine to any person who wishes to reduce his/her chances of acquiring influenza infection. Persons who provide essential community services, such as employees of fire and police departments, are not considered at increased occupational risk of serious influenza illness but may be considered for vaccination programs designed to minimize the possible disruption of essential activities that can occur during severe epidemics.

2. **Pregnant women.** Pregnancy has not been demonstrated to be a risk factor for severe influenza infection, except in the largest pandemics of 1918-1919 and 1957-1958. However, a pregnant woman with a medical condition that increases her risk of complications from influenza should be vaccinated, as influenza vaccine is considered safe for pregnant women in the absence of a specific severe egg allergy. Nonetheless, when vaccine is given during pregnancy, waiting until after the first trimester is a reasonable precaution to minimize any concern over the theoretical possibility of teratogenicity. However, it may be undesirable to delay vaccination of a pregnant woman with a high-risk condition who will still be in the first trimester of pregnancy when influenza activity usually begins.

Persons Who Should Not Be Vaccinated

Inactivated influenza vaccine should not be given to persons who have an anaphylactic sensitivity to eggs (see below, **Side Effects and Adverse Reactions**). Persons with acute febrile illnesses usually should not be vaccinated until their temporary symptoms have abated.

Timing of Influenza Vaccination Activities

The first sporadic laboratory-confirmed cases of influenza in the United States or U.S. territories are often documented in September or October; however, except in years of pandemic influenza (e.g., 1957 and 1968), high levels of influenza activity have not occurred in the contiguous United States before late December. Therefore, organized vaccination campaigns where high-risk persons are routinely accessible, such as in chronic-care facilities or work-sites, may be optimally undertaken in November. Vaccination is desirable in September or October (1) if warranted by regional experience of earlier-than-normal epidemic activity (e.g., in Alaska); (2) for hospitalized high-risk patients who should be vaccinated at the time of discharge (such patients should be vaccinated when discharged from September to the time influenza activity begins to decline in their community); or (3) for other persons recommended for vaccination who receive medical check-ups or treatment during the late or early fall and who may not be seen again until after November.

Children who have not been previously vaccinated require two doses of vaccine with at least 1 month between doses. Programs for childhood influenza vaccination should be scheduled so the second dose can be given before December. Vaccine can be given to both children and adults up to and even after influenza virus activity is documented in a region, although temporary chemoprophylaxis may be indicated when influenza outbreaks are occurring (see below, **ANTIVIRAL AGENT FOR INFLUENZA A: AMANTADINE**).

Strategies for Implementing Influenza Vaccine Recommendations

More effective programs for giving influenza vaccine to high-risk persons, well planned in advance, are needed in nursing homes and other chronic-care facilities, in physicians' offices, health-maintenance organizations, hospital settings, and employee-health clinics. Adults and children in high-priority target groups who do not reside in nursing homes or other chronic-care facilities should be scheduled to receive influenza vaccine at the time of their last regular medical follow-up before the influenza season (i.e., before December). High-risk persons not scheduled for regular medical appointments in the fall should be notified by their medical-care

ACIP: Influenza -- Continued

provider to come in specifically to receive influenza vaccine. Hospital discharge procedures each September-February should include influenza vaccination of high-risk patients. Medical-care personnel and auxiliary staff must be made aware of the importance of ensuring that no high-risk patient resides in or leaves a medical-care facility in the fall without being strongly urged to receive influenza vaccine and having the vaccine offered.

Educational materials (e.g., audio-visual tape) about influenza and its control are available for inservice training through state chapters of the American Lung Association (National Headquarters telephone [212] 315-8700). Black-and-white layouts that can be used to reproduce a brochure, "What You Should Know About Flu and Flu Shots," prepared by CDC, and copies of a report, "Implementation of Recommendations for Influenza Control," published in the *MMWR* (1985;34:639-43), are available on request by sending a preaddressed mailing label to: Office of Public Inquiries, Building 1, Room B63, CDC, Atlanta, Georgia 30333.

Side Effects and Adverse Reactions

Because vaccines contain only noninfectious viruses, they cannot cause influenza. Occasional cases of respiratory disease following vaccination represent coincidental illnesses unrelated to influenza infection. The most frequent side effect of vaccination, which occurs in less than one-third of vaccinees, is soreness around the vaccination site for up to 1-2 days.

Systemic reactions have been of two types.

1. Fever, malaise, myalgia, and other systemic symptoms of toxicity that, although infrequent, most often affect persons, such as young children, who have had no exposure to the influenza virus antigens contained in the vaccine. These reactions begin 6-12 hours after vaccination and can persist for 1-2 days.
2. Immediate, presumably allergic, responses, such as flare and wheal or various respiratory tract symptoms of hypersensitivity, that may occur extremely rarely after influenza vaccination. These symptoms probably result from sensitivity to some vaccine component—most likely residual egg protein. Although current influenza vaccines contain only a small quantity of egg protein, the vaccine is presumed capable of inducing hypersensitivity reactions in individuals with anaphylactic hypersensitivity to eggs, and such persons should *not* be given influenza vaccine. This includes individuals who, after eating eggs, develop swelling of the lips or tongue or experience acute respiratory distress or collapse or persons who have a documented IgE-mediated hypersensitivity reaction to eggs, including those who, from occupational exposure to egg protein, have developed evidence of occupational asthma or other allergic response. Unlike the 1976 swine influenza vaccine, subsequent vaccines, which have been prepared from other virus strains, have not been associated with an increased frequency of Guillain-Barré syndrome. Although it has been reported that influenza vaccination may inhibit the clearance of warfarin and theophylline, further studies have consistently failed to show any adverse effects of influenza vaccination in patients taking these drugs.

Simultaneous Administration of Other or Childhood Vaccines

There is considerable overlap in the target groups for influenza and pneumococcal vaccination. Pneumococcal and influenza vaccines can be given at the same time at different sites without increased side effects, but it should be emphasized that, whereas influenza vaccine is given annually, pneumococcal vaccine should be given only once. Detailed immunization records, which should be provided to each patient, will help ensure that additional doses of pneumococcal vaccine are not given.

Because children are accessible at times when pediatric vaccines are administered, it may be desirable to simultaneously administer influenza vaccine, if indicated, with routine pediatric

ACIP: Influenza — Continued

vaccine but at different sites. Although studies have not been done, no diminution of immunogenicity or enhancement of adverse reactions should be expected.

ANTIVIRAL AGENT FOR INFLUENZA A: AMANTADINE

The only drug currently approved in the United States for the specific prophylaxis and therapy of influenza virus infections is amantadine hydrochloride (Symmetrel®). This drug appears to interfere with the uncoating step in the virus replication cycle and also reduces virus shedding. Amantadine is 70%-90% effective in preventing illnesses caused by circulating strains of type A influenza viruses, but *it is not effective against type B influenza*. When administered within 24-48 hours after onset of illness, amantadine has been shown to reduce the duration of fever and other systemic symptoms with a more rapid return to routine daily activities and improvement in peripheral airway function. Since it may not prevent actual infection, persons who take the drug may still develop immune responses that will protect them when exposed to antigenically related viruses.

Considerable evidence shows that amantadine chemoprophylaxis is effective against influenza A; however, under most circumstances, it should not be used in lieu of vaccination because (1) it confers no protection against influenza B and (2) patient compliance could be a problem for continuous administration throughout epidemic periods, which generally last 6-12 weeks. Optimal use of amantadine will be improved by increasing the availability of rapid viral diagnostic tests and improving the dissemination of information about where influenza A virus infections have been confirmed by laboratory diagnosis. Such information is now available to public health officials by computer telecommunication from CDC, in addition to being reported throughout the influenza season in the *MMWR*.

Amantadine Prophylaxis Recommendations

Amantadine prophylaxis is particularly recommended to control presumed influenza A outbreaks. The drug should be given as early as possible after recognition of an outbreak in an effort to reduce the spread of the infection. *Contingency planning for influenza outbreaks in institutions is needed to establish specific steps for rapid administration of amantadine to residents of chronic-care facilities, when appropriate, including obtaining physicians' orders on short notice.* When the decision is made to give amantadine for outbreak control, it is desirable to administer the drug to all residents of the affected institution, taking into account dosage recommendations and precautions given below and in the drug's package insert. It is also recommended that amantadine prophylaxis be offered to unvaccinated staff who provide care to high-risk residents of chronic-care institutions or hospitals experiencing a presumed influenza A outbreak to reduce spread of virus and to minimize disruption of patient care.

Amantadine prophylaxis is also recommended in the following situations:

1. **As an adjunct to late immunization of high-risk individuals.** It is not too late to immunize even when influenza A is known to be in the community. However, since the development of an antibody response following vaccination takes about 2 weeks, amantadine should be used in the interim. The drug does not interfere with antibody response to the vaccine.
2. **To reduce spread of virus and maintain care for high-risk persons in the home setting.** Persons who play a major role in providing care for high-risk persons in the home setting (e.g., family members, visiting nurses, volunteer workers) should also receive amantadine for prophylaxis when influenza A virus outbreaks occur in their communities, if such persons have not been appropriately immunized.
3. **For immunodeficient persons.** To supplement protection afforded by vaccination, chemoprophylaxis is also indicated for high-risk patients who may be expected to have a poor antibody response to influenza vaccine, e.g., those with severe immunodeficiency.

ACIP: Influenza — Continued

4. **For persons for whom influenza vaccine is contraindicated.** Chemoprophylaxis throughout the influenza season is appropriate for those few high-risk individuals for whom influenza vaccine is contraindicated because of anaphylactic hypersensitivity to egg protein or prior severe reactions associated with influenza vaccination.

Amantadine can also be used prophylactically in other situations (e.g., unimmunized members of the general population who wish to avoid influenza A illness). This decision should be made on an individual basis.

Therapy

Amantadine should be considered for therapeutic use, particularly for persons in the high-risk groups who develop an illness compatible with influenza during known or suspected influenza A activity in the community. The drug should be given within 24-48 hours of onset of illness and should be continued until 48 hours after resolution of signs and symptoms.

Precautions for the Use of Amantadine

Special precautions should be taken when amantadine is administered to persons with impaired renal function or those with an active seizure disorder (see below). The safety and efficacy of amantadine for children under 1 year of age have not been fully established.

Dosage

The usual adult dosage of amantadine is 200 mg/day; splitting the dose into 100 mg twice daily may reduce the incidence of side effects (Table 2). Amantadine is not metabolized and is excreted unchanged in the urine. Because renal function normally declines with age, and because side effects have been reported more frequently among older persons, a reduced dosage of 100 mg/day is generally advisable for persons aged 65 years or older to minimize the risk of toxicity. Persons 10-64 years old with an active seizure disorder may also be at risk of increased frequency of seizures when given amantadine at 200 mg/day rather than 100 mg/day.

Side Effects and Adverse Reactions

Five percent to 10% of otherwise healthy adults taking amantadine report side effects such as insomnia, lightheadedness, irritability, and difficulty concentrating. These and other side effects (see package insert) may be more pronounced among patients with underlying diseases, particularly those common among the elderly; *provisions for careful monitoring are needed for these individuals so that adverse effects may be recognized promptly, and the drug reduced in dosage or discontinued, if needed. Since amantadine is not metabolized, toxic levels can occur when renal function is sufficiently impaired.*

SELECTED BIBLIOGRAPHY

- Arden NH, Patriarca PA, Kendal AP. Experiences in the use and efficacy of inactivated influenza vaccine in nursing homes. In: Kendal AP, Patriarca PA, eds. *Options for the control of influenza*. New York: Alan R. Liss, 1986;155-68.
- Barker WH. Excess pneumonia and influenza associated hospitalization during influenza A epidemics in the U.S., 1970-78. In: Kendal AP, Patriarca PA, eds. *Options for the control of influenza*. New York: Alan R. Liss, 1986;75-87.
- Barker WH, Mullooly JP. Effectiveness of inactivated influenza vaccine among non-institutionalized elderly persons. In: Kendal AP, Patriarca PA, eds. *Options for the control of influenza*. New York: Alan R. Liss, 1986;169-82.
- Barker WH, Mullooly JP. Influenza vaccination of elderly persons. Reduction in pneumonia and influenza hospitalizations and deaths. *JAMA* 1980;244:2547-9.
- Barker WH, Mullooly JP. Impact of epidemic type A influenza in a defined adult population. *Am J Epidemiol* 1980;112:798-811.
- Barker WH, Mullooly JP. Pneumonia and influenza deaths during epidemics: implications for prevention. *Arch Intern Med* 1982;142:85-9.
- Bukowsky M, Munt PW, Wigle R, Nakatsu K. Theophylline clearance. Lack of effect of influenza vaccination and ascorbic acid. *Am Rev Respir Dis* 1984;129:672-5.

ACIP: Influenza — Continued

- Consensus Development Conference Panel. Amantadine: does it have a role in prevention and treatment of influenza? A National Institutes of Health Consensus Development Conference. *Ann Intern Med* 1980;92:256-8.
- DeStefano F, Goodman RA, Noble GR, McClary GD, Smith SJ, Broome CV. Simultaneous administration of influenza and pneumococcal vaccines. *JAMA* 1982;247:2551-4.
- Dolin R, Reichman RC, Madore HP, Maynard R, Linton PN, Webber-Jones J. A controlled trial of amantadine and rimantadine in the prophylaxis of influenza A infection. *N Engl J Med* 1982;307:580-4.
- Dowdle WR, Coleman MT, Gregg MB. Natural history of influenza type A in the United States, 1957-1972. *Prog Med Virol* 1974;17:91-135.
- Eickhoff TC. Immunization against influenza: rationale and recommendations. *J Infect Dis* 1971;123:446-54.
- Fedson DS, Kessler HA. A hospital-based influenza immunization program, 1977-78. *Am J Public Health* 1983;73:442-5.
- Galasso GJ, Tyeryar FJ Jr, Cate TR, et al., eds. Clinical studies of influenza vaccines—1976. *J Infect Dis* 1977;136(Suppl):S341-S742.
- Glezen WP. Serious morbidity and mortality associated with influenza epidemics. *Epidemiol Rev* 1982;4:25-44.
- Glezen WP, Six HR, Frank AL, et al. Impact of epidemics upon communities and families. In: Kendal AP, Patriarca PA, eds. *Options for the control of influenza*. New York: Alan R. Liss, 1986;63-73.

TABLE 2. Amantadine hydrochloride* dosage, by age of patient and level of renal function

Age group	Dosage†
No recognized renal disease	
1-9 yrs.‡	4.4-8.8 mg/kg/day once daily or divided twice daily. Total dosage should not exceed 150 mg/day
10-64 yrs.¶	200 mg once daily or divided twice daily
≥ 65 yrs.	100 mg once daily
Recognized renal disease	
Creatinine clearance: (ml/min 1.73m ²)	
≥ 80	100 mg twice daily
60-79	200 mg/100 mg on alternate days
40-59	100 mg once daily
30-39	200 mg twice weekly
20-29	100 mg thrice weekly
10-19	200 mg/100 mg alternating every 7 days

*Amantadine hydrochloride (Symmetrel®) is manufactured and distributed by E. I. Du Pont de Nemours and Company. (Medical Department phone number 800-441-9861, or in Delaware 992-3273).

†For prophylaxis, amantadine must be taken each day for the duration of influenza A activity in the community (generally 6-12 weeks). For therapy, amantadine should be started as soon as possible after onset of symptoms and should be continued for 24-48 hours after the disappearance of symptoms (generally 5-7 days).

‡Use in children under 1 year has not been evaluated adequately.

¶Reduction of dosage to 100 mg/day is also recommended for persons with an active seizure disorder, because such persons may be at risk of experiencing an increase in the frequency of their seizures when given amantadine at 200 mg/day.

**The reduced dosage of 100 mg/day for person 65 years of age or older without recognized renal disease is recommended to minimize the risk of toxicity, because renal function normally declines with age, and because side effects have been reported more frequently in the elderly when a daily dose of 200 mg has been used.

ACIP: Influenza — Continued

- Hammond GW, Cleary M. Absenteeism among hospital staff during an influenza epidemic: implications for immunoprophylaxis. *Can Med Assoc J* 1984;131:449-52.
- Horadam VW, Sharp JG, Smilack JD, Schonberger LB. Pharmacokinetics of amantadine hydrochloride in subjects with normal and impaired renal function. *Ann Intern Med* 1981;94:454-8.
- Kaplan JE, Katona P, Hurwitz ES, Schonberger LB. Guillain-Barré syndrome in the United States, 1979-1980 and 1980-1981. Lack of an association with influenza vaccination. *JAMA* 1982;248:698-700.
- Kilbourne ED, ed. The influenza viruses and influenza. New York: Academic Press, 1975.
- LaMontagne JR, Noble GR, Quinnan GV, et al. Summary of clinical trials of inactivated influenza vaccine — 1978. *Rev Infect Dis* 1983;5:723-36.
- Mufson MA, Krause HE, Tarrant CJ, Schiffman G, Cano FR. Polyvalent pneumococcal vaccine given alone and in combination with bivalent influenza vaccine. *Proc Soc Exp Biol Med* 1980;163:498-503.
- Nolan TF Jr, Goodman RA, Hinman AR, Noble GR, Kendal AP, Thacker SB. Morbidity and mortality associated with influenza B in the United States, 1979-1980. A report from the Center for Disease Control. *J Infect Dis* 1980;142:360-2.

(Continued on page 331)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	20th Week Ending			Cumulative, 20th Week Ending		
	May 17, 1986	May 18, 1985	Median 1981-1985	May 17, 1986	May 18, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	210	188	N	4,782	2,655	N
Aseptic meningitis	93	70	70	1,646	1,395	1,499
Encephalitis: Primary (arthropod-borne & unsp.)	11	11	12	288	347	347
Post-infectious	2	2	2	33	53	37
Gonorrhea	14,456	17,032	17,081	311,505	302,409	341,933
Hepatitis: Civilian	433	893	587	5,996	7,444	9,406
Type A	414	351	371	8,371	8,131	8,681
Type B	491	461	461	9,615	9,526	8,843
Non A, Non B	70	72	N	1,299	1,593	N
Unspecified	89	103	148	1,902	2,068	2,812
Legionellosis	10	7	N	201	229	N
Leprosy	1	1	5	105	150	84
Malaria	21	23	14	277	278	281
Measles: Total*	143	72	72	2,527	1,188	1,188
Indigenous	135	63	N	2,417	951	N
Imported	8	9	N	110	237	N
Meningococcal infections: Total	59	55	58	1,225	1,185	1,370
Civilian	59	55	58	1,223	1,181	1,367
Military	-	-	-	2	4	5
Mumps	73	56	100	1,377	1,574	1,726
Pertussis	48	37	26	929	584	584
Rubella (German measles)	13	14	28	202	189	474
Syphilis (Primary & Secondary): Civilian	459	436	591	9,791	9,523	11,555
Military	1	1	6	77	70	137
Toxic Shock syndrome	4	7	N	139	151	N
Tuberculosis	412	430	463	7,629	7,596	8,427
Tularemia	2	4	4	23	37	46
Typhoid fever	8	3	7	94	108	130
Typhus fever, tick-borne (RMSF)	18	20	26	66	81	87
Rabies, animal	112	119	137	2,096	1,908	2,315

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Hawaii)	16
Botulism: Foodborne	4	Plague	-
Infant	21	Polio myelitis, Paralytic	-
Other	-	Psittacosis (Va 1)	23
Brucellosis (Nebr 1, Tex 1)	22	Rabies, human	-
Cholera	-	Tetanus (Mo 1, Calif 1)	17
Congenital rubella syndrome	2	Trichinosis (Iowa 1)	8
Congenital syphilis, ages < 1 year	1	Typhus fever, flea-borne (endemic, murine) (Tex 1)	10
Diphtheria	-		

*Four of the 143 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
May 17, 1986 and May 18, 1985 (20th Week)

Reporting Area	AIDS Cum 1986	Aseptic Meningitis 1986	Encephalitis		Gonorrhea (Chlamydia)		Hepatitis (Viral), by type				Legionel- losis 1986	Leprosy Cum 1986
			Primary Cum 1986	Post-in- fectious Cum 1986	Cum 1986	Cum 1985	A 1986	B 1986	NA/NB 1986	Unspeci- fied 1986		
UNITED STATES	4,762	93	288	33	311,505	302,409	414	491	70	89	10	105
NEW ENGLAND	195	1	9	2	7,055	9,250	9	22	3	4		3
Maine	9	-	-	-	376	356	-	-	-	-	-	-
Mass	7	-	2	-	186	197	-	-	-	-	-	-
N.H.	2	-	-	1	104	98	-	1	-	-	-	-
Rhode Is.	111	-	2	-	3,083	3,437	7	13	1	3	-	3
Vt.	13	1	-	-	673	696	-	2	-	-	-	-
Conn.	53	-	3	1	2,533	4,466	2	6	2	1	-	-
MID-ATLANTIC	1,823	4	47	1	53,211	42,909	23	38	6	22		9
Del.	164	-	18	-	6,028	6,193	6	9	3	-	-	1
Md.	1,272	4	11	-	30,781	19,861	5	2	-	17	-	7
N.Y.	300	-	5	-	7,138	7,922	5	20	3	5	-	1
Pa.	87	-	13	1	9,264	8,933	7	7	-	-	-	-
N. CENTRAL	253	11	58	4	40,050	43,444	23	63	1	3	2	4
Ill.	30	1	18	2	9,542	11,270	12	20	-	-	1	-
Ind.	26	-	5	2	4,831	4,122	5	13	1	-	-	-
Iowa	128	-	12	-	10,823	12,037	-	3	-	-	-	3
Mich.	55	10	22	-	12,816	12,382	6	27	-	3	1	1
Wis.	14	-	1	-	2,038	3,633	-	-	-	-	-	-
S. CENTRAL	84	3	9	6	13,497	14,953	26	25	5	2	1	1
Ark.	39	-	5	-	1,998	2,201	3	1	-	-	-	1
La.	20	1	4	-	1,373	1,603	2	1	-	-	-	-
Mo.	20	-	-	-	6,923	6,981	13	21	4	2	-	-
Okla.	2	-	-	-	127	107	-	-	-	-	-	-
Tex.	1	1	-	-	281	274	2	-	-	-	-	-
Miss.	3	-	-	-	930	1,438	-	2	1	-	-	-
Louis.	12	1	-	6	1,865	2,349	6	-	-	-	1	-
S. ATLANTIC	690	17	45	13	76,795	65,254	53	107	14	9	4	1
Del.	12	-	3	-	1,314	1,457	2	-	-	-	-	-
Md.	77	1	11	-	9,176	10,494	2	19	6	2	-	-
N.C.	90	-	-	-	6,152	5,411	-	-	-	-	-	-
S.C.	70	4	16	1	6,747	6,904	1	14	2	1	-	1
Va.	2	-	6	-	952	967	10	3	-	-	-	-
W.Va.	28	1	8	1	13,410	11,956	-	12	1	-	2	-
Ga.	17	1	-	-	7,081	8,124	-	10	-	-	-	-
Fla.	87	4	-	-	9,359	-	4	11	-	-	-	-
Ala.	307	6	1	11	22,624	19,341	34	38	5	6	2	-
E. CENTRAL	47	7	19	1	26,306	26,113	10	38	4	-	-	-
Ky.	12	-	8	-	3,024	2,875	1	12	2	-	-	-
Tenn.	20	2	1	1	10,270	10,386	1	13	1	-	-	-
Ala.	10	4	9	-	7,457	8,283	8	8	1	-	-	-
Miss.	5	1	1	-	5,555	4,569	-	5	-	-	-	-
W. S. CENTRAL	356	17	29	1	38,947	42,438	38	31	5	20	2	7
Ark.	14	1	-	-	3,615	4,040	3	4	-	2	-	-
La.	58	1	2	-	7,048	8,652	2	5	3	-	-	-
Okla.	16	3	6	-	4,541	4,414	5	5	1	-	-	-
Tex.	268	12	21	1	23,743	25,333	28	17	1	18	2	7
MOUNTAIN	123	8	12	1	9,828	9,728	65	38	5	11	1	7
Mont.	3	-	-	1	251	289	1	-	-	-	-	-
Idaho	1	-	-	-	313	331	1	3	-	1	-	-
Wyo.	2	-	2	-	201	249	1	-	-	-	-	-
Colo.	65	2	2	-	2,565	2,983	7	5	1	4	-	3
N. Mex.	6	-	1	-	1,006	1,156	3	2	1	2	-	-
Ariz.	29	3	5	-	3,279	2,757	47	21	1	4	-	2
Utah	6	-	1	-	410	411	2	2	-	-	1	-
Nev.	11	1	1	-	1,803	1,552	3	5	2	-	-	2
PACIFIC	1,191	27	60	4	45,816	48,319	167	129	27	18		73
Wash.	34	3	5	-	3,492	3,330	1	11	3	5	-	7
Oreg.	24	-	-	-	1,826	2,427	17	10	6	1	-	-
Calif.	1,114	21	53	4	38,804	40,692	148	106	18	12	-	57
Alaska	9	1	2	-	1,162	1,142	1	-	-	-	-	9
Hawaii	10	2	-	-	532	728	-	2	-	-	-	-
Guam	-	-	-	-	47	73	-	-	-	-	-	1
P.R.	48	-	3	-	858	1,444	3	8	-	1	-	7
V.I.	1	-	-	-	84	183	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	72	322	-	-	-	-	-	1
Amer. Samoa	-	-	-	-	14	-	-	1	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 17, 1986 and May 18, 1985 (20th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin- gococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total		1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
		Cum 1986	1986	Cum 1986	1986	Cum 1985									
UNITED STATES	277	135	2,417	8	110	1,188	1,225	73	1,377	48	929	584	13	202	189
NEW ENGLAND	15	-	16	-	-	97	86	-	35	1	46	28	1	2	6
Maine	-	-	-	-	-	-	18	-	-	-	2	-	-	-	-
N.H.	-	-	-	-	-	-	3	-	10	-	15	15	-	1	2
Vt.	1	-	-	-	-	-	13	-	-	-	2	4	-	-	-
Mass.	9	-	15	-	-	95	17	-	1	-	11	4	-	-	-
R.I.	2	-	1	-	-	-	11	-	6	-	1	3	-	-	-
Conn.	3	-	-	-	-	2	24	-	18	1	15	2	1	1	-
MID ATLANTIC	32	51	947	-	11	92	193	3	79	1	93	62	-	26	43
Upstate N.Y.	7	-	7	-	10	44	63	1	31	-	62	32	-	18	8
N.Y. City	10	15	168	-	1	28	38	-	5	-	3	9	-	5	16
N.J.	3	34	767	-	-	7	27	2	19	-	6	1	-	3	7
Pa.	12	2	5	-	-	13	65	-	24	1	22	20	-	-	12
E.N. CENTRAL	10	27	307	1	4	366	160	44	697	5	154	83	1	10	19
Ohio	2	-	-	-	-	43	71	20	78	2	65	14	-	-	-
Ind.	4	-	-	-	-	1	17	-	16	-	16	11	-	-	-
Ill.	4	27	193	1 [§]	1	220	35	8	363	-	18	12	-	6	5
Mich.	-	-	-	-	-	50	36	14	127	2	20	8	1	3	13
Wis.	-	-	124	-	3	52	1	2	113	1	35	38	-	1	1
W.N. CENTRAL	6	4	120	2	13	5	65	1	57	4	50	49	-	8	10
Minn.	2	1	20	-	4	2	14	-	1	-	24	11	-	-	1
Iowa	1	-	-	-	1	-	7	1	11	3	9	3	-	-	-
Mo.	2	3	5	-	4	2	23	-	13	-	4	10	-	-	-
N. Dak.	-	-	5	-	1	-	-	-	2	-	2	6	-	1	-
S. Dak.	-	-	-	-	-	-	-	-	1	-	3	1	-	-	2
Nebr.	1	-	-	-	-	-	7	-	-	-	-	1	-	-	-
Kans.	-	-	90	2 [§]	3	1	12	-	29	1	8	17	-	7	7
S. ATLANTIC	38	4	317	1	28	150	251	5	100	19	355	146	1	7	23
Del.	-	-	1	-	-	-	1	-	-	2	207	-	-	-	-
Md.	6	2	18	-	6	20	32	-	6	-	24	58	-	-	1
D.C.	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
Va.	7	-	13	1 [§]	18	16	48	-	17	2	11	3	-	-	1
W. Va.	-	-	2	-	-	23	3	1	29	-	5	-	-	-	8
N.C.	4	-	1	-	1	1	42	2	9	3	18	8	-	-	-
S.C.	2	-	268	-	-	-	24	-	11	-	5	-	-	-	2
Ga.	4	-	2	-	1	8	36	2	10	6	71	47	-	-	-
Fla.	15	1	12	-	2	80	63	-	18	6	14	30	1	7	11
E.S. CENTRAL	6	-	1	-	-	-	70	1	16	2	18	6	-	1	1
Ky.	2	-	-	-	-	-	11	1	3	-	1	1	-	-	1
Tenn.	-	-	1	-	-	-	30	-	11	-	5	1	-	-	-
Ala.	2	-	-	-	-	-	21	-	1	2	12	2	-	-	-
Miss.	2	-	-	-	-	-	8	-	1	-	-	2	-	-	-
W.S. CENTRAL	20	24	326	1	25	71	102	4	101	1	28	72	2	37	16
Ark.	-	4	275	-	2	-	13	-	7	-	2	9	-	-	1
La.	4	-	-	-	-	7	15	-	-	-	4	2	-	-	-
Okla.	2	-	-	-	4	-	14	N	N	1	22	61	-	-	1
Tex.	14	20	51	1 [†]	19	64	60	4	94	-	-	-	2	37	14
MOUNTAIN	8	13	166	1	9	308	50	8	149	5	99	25	-	1	4
Mont.	1	-	-	-	1	134	6	-	4	1	5	3	-	-	-
Idaho	1	-	-	-	-	45	1	-	2	-	26	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	1	-	2	1 [†]	4	5	9	-	6	2	23	9	-	-	-
N. Mex.	-	-	16	-	4	3	6	N	N	-	9	4	-	-	2
Ariz.	3	13	148	-	-	121	14	8	125	1	24	5	-	1	1
Utah	2	-	-	-	-	-	6	-	9	1	11	4	-	-	-
Nev.	1	-	-	-	-	-	6	-	3	-	-	-	-	-	-
PACIFIC	142	12	217	2	20	99	248	7	143	10	86	113	8	110	67
Wash.	11	-	47	-	7	1	31	-	5	7	33	18	1	3	2
Oreg.	12	-	-	-	2	3	20	N	N	-	5	17	-	-	1
Calif.	119	12	151	2 [†]	10	88	188	7	126	3	44	72	6	105	44
Alaska	-	-	-	-	-	-	8	-	4	-	1	3	-	-	-
Hawaii	-	-	19	-	1	7	1	-	8	-	3	3	1	2	20
Guam	1	-	3	-	-	10	-	-	2	-	-	-	-	2	1
P.R.	3	-	8	-	-	46	3	-	16	1	5	2	-	58	9
V.I.	-	-	-	-	-	10	-	-	7	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Amer. Samoa	-	1	1	-	-	-	-	-	2	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable [†] International [§] Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 17, 1986 and May 18, 1985 (20th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	9,791	9,523	4	7,629	7,596	23	94	66	2,096
NEW ENGLAND	192	213	-	238	259	-	4	1	2
Maine	11	7	-	24	18	-	-	-	-
N.H.	6	3	-	5	10	-	-	-	-
Vt.	6	-	-	9	4	-	-	-	-
Mass.	95	110	-	113	158	-	3	1	-
R.I.	12	6	-	14	21	-	-	-	1
Conn.	62	87	-	73	48	-	1	-	1
MID ATLANTIC	1,419	1,281	-	1,532	1,405	-	10	1	178
Upstate N.Y.	68	96	-	230	239	-	1	1	26
N.Y. City	773	798	-	740	711	-	5	-	1
N.J.	269	268	-	286	151	-	3	-	5
Pa.	309	119	-	276	304	-	1	-	146
E.N. CENTRAL	400	431	1	955	905	-	5	6	42
Ohio	50	56	-	163	166	-	-	6	3
Ind.	49	36	-	116	112	-	-	-	9
Ill.	217	218	-	404	393	-	-	-	15
Mich.	59	100	1	221	184	-	4	-	5
Wis.	25	21	-	51	50	-	1	-	10
W.N. CENTRAL	104	104	1	221	201	7	4	2	311
Minn.	17	26	1	53	39	-	1	-	31
Iowa	5	14	-	22	30	1	-	-	72
Mo.	55	44	-	108	96	6	3	-	33
N. Dak.	2	-	-	4	2	-	-	-	78
S. Dak.	2	4	-	10	7	-	-	-	65
Nebr.	8	6	-	4	9	-	-	-	5
Kans.	15	10	-	20	18	-	-	2	27
S. ATLANTIC	2,748	2,395	-	1,445	1,578	4	12	23	513
Del.	12	16	-	16	16	-	-	-	-
Md.	182	165	-	98	138	1	3	2	287
D.C.	132	137	-	52	73	-	1	-	-
Va.	173	127	-	135	127	1	3	6	80
W. Va.	8	4	-	47	39	-	1	1	10
N.C.	195	267	-	212	199	1	2	4	3
S.C.	273	297	-	160	181	-	-	9	13
Ga.	383	-	-	217	250	1	-	1	63
Fla.	1,390	1,382	-	508	555	-	2	-	57
E.S. CENTRAL	628	813	1	682	657	3	-	12	127
Ky.	27	32	-	176	128	2	-	1	35
Tenn.	237	244	-	192	199	1	-	5	56
Ala.	222	269	1	221	230	-	-	2	36
Miss.	142	268	-	93	100	-	-	4	-
W.S. CENTRAL	2,078	2,410	-	923	852	6	5	20	316
Ark.	98	122	-	106	87	4	-	1	73
La.	339	402	-	171	119	-	-	-	7
Okla.	62	67	-	86	104	2	1	16	27
Tex.	1,579	1,819	-	560	542	-	4	3	209
MOUNTAIN	220	295	1	168	186	2	5	1	350
Mont.	2	1	-	7	19	-	1	-	126
Idaho	1	3	-	5	11	-	-	-	-
Wyo.	-	5	-	-	4	-	-	1	165
Colo.	71	69	-	10	18	-	1	-	-
N. Mex.	26	36	-	36	38	1	-	-	3
Ariz.	96	164	1	78	84	-	1	-	56
Utah	4	3	-	17	6	1	2	-	-
Nev.	20	14	-	15	6	-	-	-	-
PACIFIC	2,002	1,581	-	1,465	1,553	1	49	-	257
Wash.	48	55	-	78	83	-	2	-	-
Oreg.	42	33	-	50	49	-	-	-	-
Calif.	1,894	1,464	-	1,235	1,303	-	44	-	249
Alaska	-	1	-	24	50	1	1	-	8
Hawaii	18	28	-	78	68	-	2	-	-
Guam	1	2	-	30	16	-	-	-	-
P.R.	318	331	-	114	118	-	2	-	17
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	112	22	-	10	26	-	27	-	-
Amer. Samoa	-	-	-	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
May 17, 1986 (20th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	734	498	158	48	17	13	48	S ATLANTIC	1,308	787	316	94	38	71	43
Boston, Mass.	230	125	69	20	10	6	24	Atlanta, Ga.	165	80	38	25	8	14	5
Bridgeport, Conn.	54	29	17	4	2	2	1	Baltimore, Md.	229	131	61	16	8	13	6
Cambridge, Mass.	25	20	3	2	-	-	2	Charlotte, N.C.	99	68	22	4	2	3	6
Fall River, Mass.	32	31	1	-	-	-	2	Jacksonville, Fla.	113	62	28	7	3	13	7
Hartford, Conn.	47	38	6	2	1	-	1	Miami, Fla.	102	63	27	5	3	4	1
Lowell, Mass.	37	29	7	1	-	-	-	Norfolk, Va.	60	38	14	2	2	4	2
Lynn, Mass.	17	11	5	1	-	-	2	Richmond, Va.	68	42	14	7	1	4	3
New Bedford, Mass.	24	20	1	3	-	-	2	Savannah, Ga.	39	20	13	4	1	1	1
New Haven, Conn.	38	26	8	2	1	1	-	St. Petersburg, Fla.	117	98	10	2	3	4	7
Providence, R.I.	79	51	18	7	1	2	7	Tampa, Fla.	63	38	14	6	2	1	4
Somerville, Mass.	4	4	-	-	-	-	1	Washington, D.C.	227	131	67	15	4	10	1
Springfield, Mass.	45	33	9	2	-	1	3	Wilmington, Del.	26	16	8	1	1	-	-
Waterbury, Conn.	33	25	6	1	1	1	1								
Worcester, Mass.	69	56	8	3	1	1	2								
MID ATLANTIC	2,664	1,722	578	226	60	78	132	E S CENTRAL	748	462	180	54	28	24	33
Albany, N.Y.	40	26	6	4	1	3	3	Birmingham, Ala.	141	76	37	10	9	9	2
Allentown, Pa.	24	16	4	3	1	-	-	Chattanooga, Tenn.	55	34	8	8	1	4	2
Buffalo, N.Y.	98	63	27	6	1	1	6	Knoxville, Tenn.	79	49	24	3	2	1	5
Camden, N.J.	42	28	9	2	3	1	6	Louisville, Ky.	113	78	23	5	4	3	6
Elizabeth, N.J.	31	22	7	1	1	-	2	Memphis, Tenn.	143	93	33	11	6	-	6
Erie, Pa.	47	35	9	1	1	1	3	Mobile, Ala.	53	32	12	5	2	2	4
Jersey City, N.J.	36	24	9	3	-	-	1	Montgomery, Ala.	43	27	12	2	2	-	2
N.Y. City, N.Y.	1,424	908	297	145	37	37	63	Nashville, Tenn.	121	73	31	10	2	5	6
Newark, N.J.	87	42	21	14	3	7	5	W S CENTRAL	1,349	809	303	142	51	44	48
Paterson, N.J.	23	15	5	1	-	2	1	Austin, Tex.	64	36	12	8	7	1	-
Philadelphia, Pa.	395	247	93	32	9	14	29	Baton Rouge, La.	41	26	7	4	2	2	-
Pittsburgh, Pa.	56	41	14	1	-	-	-	Corpus Christi, Tex.	51	29	16	5	1	-	1
Reading, Pa.	27	24	3	-	-	-	3	Dallas, Tex.	187	119	34	25	7	2	9
Rochester, N.Y.	127	89	29	6	-	3	5	El Paso, Tex.	52	32	7	5	3	5	4
Schenectady, N.Y.	25	18	6	1	-	-	1	Fort Worth, Tex.	96	53	23	11	3	6	1
Scranton, Pa.	29	18	7	1	1	2	1	Houston, Tex.	364	206	87	41	17	13	10
Syracuse, N.Y.	80	58	14	4	2	2	6	Little Rock, Ark.	73	48	12	6	1	6	6
Trenton, N.J.	30	16	9	3	-	2	-	New Orleans, La.	138	78	36	17	2	5	1
Utica, N.Y.	17	11	5	-	-	-	-	San Antonio, Tex.	155	99	38	11	6	1	13
Yonkers, N.Y.	26	21	4	-	-	1	2	Shreveport, La.	51	37	11	2	1	-	3
								Tulsa, Okla.	77	46	20	7	1	3	-
E N CENTRAL	2,361	1,487	558	163	61	91	72	MOUNTAIN	678	427	134	59	36	22	22
Akron, Ohio	80	54	17	3	2	4	-	Albuquerque, N.Mex.	78	48	18	8	3	-	1
Canton, Ohio	33	21	11	1	-	-	1	Colorado Springs, Colo.	32	22	4	2	2	2	4
Chicago, Ill.	565	360	126	46	10	23	16	Denver, Colo.	108	73	15	10	7	3	2
Cincinnati, Ohio	147	91	29	10	8	9	12	Las Vegas, Nev.	93	54	22	10	5	2	4
Cleveland, Ohio	164	96	44	15	5	4	6	Ogden, Utah	19	14	2	2	-	1	2
Columbus, Ohio	167	107	45	9	2	4	4	Phoenix, Ariz.	169	97	34	14	14	10	2
Dayton, Ohio	122	72	32	9	7	2	2	Pueblo, Colo.	18	16	1	1	-	-	3
Detroit, Mich.	226	119	60	27	6	14	5	Salt Lake City, Utah	45	29	7	4	2	3	1
Evansville, Ind.	35	25	6	3	1	-	-	Tucson, Ariz.	116	74	31	7	3	1	3
Fort Wayne, Ind.	66	45	12	3	4	2	-								
Gary, Ind.	20	9	6	3	2	-	-	PACIFIC	1,761	1,169	339	160	51	38	91
Grand Rapids, Mich.	61	41	12	1	2	5	2	Berkeley, Calif.	18	13	1	3	-	1	-
Indianapolis, Ind.	176	112	43	12	2	7	3	Fresno, Calif.	74	39	22	4	4	5	4
Madison, Wis.	48	32	8	2	1	5	3	Glendale, Calif.	26	23	3	-	-	-	2
Milwaukee, Wis.	147	101	37	6	1	2	1	Honolulu, Hawaii	72	48	16	6	-	2	7
Peoria, Ill.	57	31	13	7	4	2	6	Long Beach, Calif.	56	43	7	2	4	-	12
Rockford, Ill.	40	22	14	1	2	1	-	Los Angeles, Calif.	508	315	103	61	20	6	16
South Bend, Ind.	61	40	14	2	1	3	3	Oakland, Calif.	70	44	15	8	2	1	3
Toledo, Ohio	98	80	16	1	-	1	7	Pasadena, Calif.	27	19	6	-	2	-	1
Youngstown, Ohio	48	29	13	2	1	3	1	Portland, Ore.	116	83	23	8	1	6	6
W N CENTRAL	722	513	124	43	19	23	32	Sacramento, Calif.	141	100	21	11	5	4	11
Des Moines, Iowa	50	38	10	1	1	-	4	San Diego, Calif.	154	107	21	16	4	6	12
Duluth, Minn.	34	25	8	-	-	1	-	San Francisco, Calif.	131	79	32	20	-	-	2
Kansas City, Kans.	32	22	5	3	1	1	1	San Jose, Calif.	138	87	35	10	2	4	7
Lincoln, Nebr.	119	85	16	6	6	6	5	Seattle, Wash.	144	103	24	7	6	4	6
Minneapolis, Minn.	24	22	2	-	-	-	1	Spokane, Wash.	45	33	6	2	-	4	2
Omaha, Nebr.	89	51	22	10	2	4	3	Tacoma, Wash.	41	33	4	2	1	1	-
St. Louis, Mo.	81	63	6	8	1	3	2								
St. Paul, Minn.	149	106	27	8	4	4	6								
Wichita, Kans.	74	52	15	2	3	2	3								
	70	49	13	5	1	2	7								
TOTAL	12,325	7,874	2,690	989	361	404	521								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Total deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

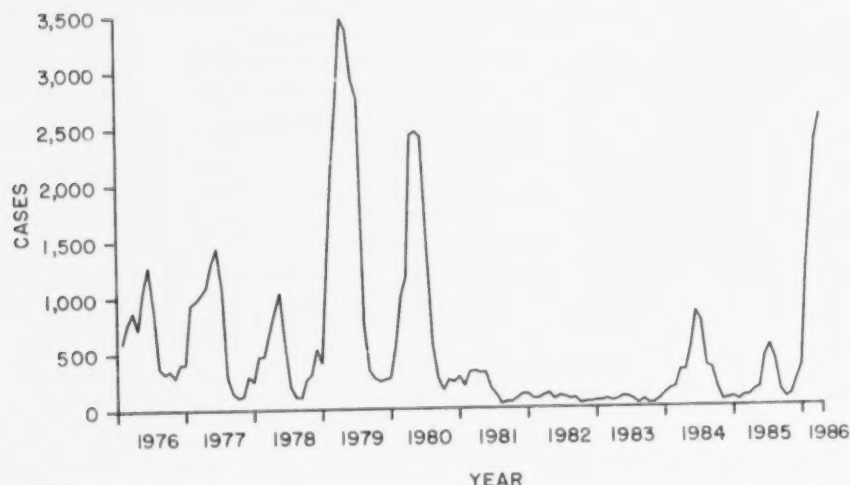
§ Data not available. Figures are estimates based on average of past 4 weeks.

ACIP: Influenza — Continued

- Patriarca PA, Kendal AP, Strickland RL, Weber JA, Meissner MK, Dateno B. Influenza vaccination and warfarin or theophylline toxicity in nursing home residents [Letter]. *N Engl J Med* 1983;308:1601-2.
- Patriarca PA, Weber JA, Parker RA, et al. Efficacy of influenza vaccine in nursing homes. Reduction in illness and complications during an influenza A (H3N2) epidemic. *JAMA* 1985;253:1136-9.
- Parkman PD, Galasso GJ, Top FH Jr, Noble GR. Summary of clinical trials of influenza vaccines. *J Infect Dis* 1976;134:100-7.
- Wright PF, Dolin R, La Montagne JR. Summary of clinical trials of influenza vaccines-II. *J Infect Dis* 1976;134:633-8.
- Younkin SW, Betts RF, Roth FR, Douglas RG Jr. Reduction in fever and symptoms in young adults with influenza A/Brazil/78 H1N1 infection after treatment with aspirin or amantadine. *Antimicrob Agents Chemother* 1983;23:577-82.

*International Notes***Update: Measles — Canada, 1986**

Between January 1, and April 12, 1986, 7,941 measles cases in Canada were reported to the Laboratory Centre for Disease Control, a greater than 20-fold increase over the corresponding period in 1985, and the largest number of measles cases reported since 1979 (Figure 1). Eight provinces reported more cases during this period than during the same period

FIGURE 1. Reported measles cases — Canada, 1976-1986

Measles — Continued

in 1985 (Table 3). British Columbia, Manitoba, and Nova Scotia accounted for 63%, 21%, and 11% of the total cases, respectively. The overall incidence rate for Canada was 31 cases per 100,000 population. British Columbia experienced the highest incidence rate (174/100,000 population) followed by Manitoba (153/100,000) and Nova Scotia (102/100,000).

Age data are available for 5,260 (98%) of the 5,367 cases reported in Canada during the first 2½ months of 1986 (Table 4). Thirty-six percent of cases occurred among 10- to 14-year-olds; 29%, among 15- to 19-year-olds; and 21%, among 5- to 9-year-olds. The highest incidence rate (104/100,000) occurred for 10- to 14-year-olds. The rate for 15- to 19-year-olds and 5- to 9-year-olds was 77 cases and 61 cases/100,000, respectively. In 1985, 10- to 14-year-olds also had the highest incidence rate (45/100,000).

TABLE 3. Reported measles cases and incidence rates,* by province and territory — Canada, January 1-April 12, 1985, and January 1 - April 12, 1986

Province/territory	1985		1986	
	No.	Rate	No.	Rate
Newfoundland	1	0.2	4	0.7
Prince Edward Island	0	0.0	0	0.0
New Brunswick	2	0.3	4	0.6
Nova Scotia	15	1.7	899	102.1
Quebec	21	0.3	12	0.6
Ontario	200	2.2	285	3.1
Manitoba	0	0.0	1,636	153.0
Saskatchewan	0	0.0	18	1.8
Alberta	42	1.8	59	2.5
British Columbia	64	2.2	5,020	173.6
Yukon	0	0.0	0	0.0
Northwest Territory	11	21.6	4	7.9
Canada	356	1.4	7,941	31.3

*Per 100,000 population.

TABLE 4. Age distribution of measles patients of known age — Canada, January-December 1985 and January 1-March 15, 1986

Age (yrs.)	1985			1986		
	No.	(%)	Rate*	No.	(%)	Rate†
< 1	142	(5.3)	37.5	105	(2.0)	27.7
1-4	315	(11.9)	21.3	386	(7.3)	26.1
5-9	666	(25.0)	37.4	1,096	(20.8)	61.5
10-14	821	(30.9)	45.3	1,893	(36.0)	104.4
15-19	593	(22.3)	30.1	1,522	(28.9)	77.1
20-24	48	(1.8)	2.0	144	(2.7)	6.0
25-29	27	(1.0)	1.2	44	(0.8)	1.9
≥ 30	49	(1.8)	0.4	70	(1.3)	0.5
Total	2,661	(100.0)		5,260	(100.0)	

*Per 100,000 population.

†Rate for the first 2½ months only; annual rate likely to be substantially higher.

Measles — Continued

Investigations of some of the current outbreaks in British Columbia and Manitoba indicate that approximately 73% and 55% of patients, respectively, had histories of measles vaccination. Although most patients have histories of receiving live measles vaccine, the proportion who received adequate immunization (according to current definitions) is not known. Further epidemiologic investigations are ongoing. Of interest is that, in British Columbia, between 1969 and 1974, half-doses of live measles vaccine were administered to conserve vaccine supply. In addition, many children in Canada may have received further attenuated live measles vaccine and human immune globulin simultaneously, or live attenuated measles vaccine within 6 weeks after immune globulin, killed vaccine, or vaccine at under 12 months of age.

Reported by P. Varughese, S. Acres, Laboratory Centre for Disease Control, Ottawa, Ontario, Canada; Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: Measles vaccine of several types, including inactivated vaccine, has been used in Canada since 1964 (1). All provinces now routinely use further attenuated measles vaccine combined with mumps and rubella (MMR), which is recommended for use at or after 12 months of age (2). The mean annual measles incidence rate decreased from 358 cases/100,000 during the prevaccine era (1949-1958) to 30/100,000 during 1976-1985, a 92% reduction. The highest rate during the past 10 years was in 1979—95/100,000 in 1979. The lowest reported incidence occurred in 1983—4/100,000.

Measles elimination has been a priority since the early 1980s in all provinces (3). Ontario, New Brunswick, and Manitoba, representing 43% of Canada's population, introduced legislation in 1981, 1982, and 1985, respectively, making measles vaccination compulsory for school entry. Provinces without school immunization laws have used intensive education efforts to encourage vaccination and report that over 95% of children are vaccinated by the time they reach school age. The current measles outbreaks in Canada are probably attributable to accumulation of susceptibles due to unvaccinated school-aged children who started school before widespread use of measles vaccine in Canada, persons inappropriately vaccinated, and vaccine failures.

Large numbers of U.S. tourists travel to Canada each year, and more tourists than usual are expected this year because of Expo '86. Because of the large measles epidemics in several provinces of Canada, it is advisable that travelers to these areas be immune to measles. Recommendations for travelers to Canada are essentially the same as those for travelers to any area where measles is endemic or epidemic (4). A physician's documentation of prior measles disease, measles vaccination (on or after the first birthday), or laboratory evidence of immunity constitutes evidence of immunity. In the United States, measles vaccine is recommended for all children 15 months of age or older. However, the age at vaccination should be lowered for those children traveling to areas where measles is endemic or epidemic. Children 12-14 months of age may receive MMR before their departure, with no need for revaccination. Children 6-11 months of age may receive single measles antigen vaccine (without rubella or mumps antigens) before departure but must be revaccinated with MMR vaccine. The optimal age at revaccination is 15 months, although the age at revaccination may be as young as 12 months if the children remain in high-risk areas.

References

1. Larke RP. Impact of measles in Canada. *Rev Infect Dis* 1983;5:445-51.
2. National Advisory Committee on Immunization. Health and Welfare, Canada. A guide to immunization for Canadians. Ottawa, Ontario, Canada: Minister of Supply and Services, 1980.
3. White F. Policy for measles elimination in Canada. *Rev Infect Dis* 1983;5:577-82.
4. CDC. Recommendations for measles vaccination for international travel. Advisory memorandum no 85, March 12, 1986.

*Current Trends***Classification System for Human T-Lymphotropic Virus Type III/
Lymphadenopathy-Associated Virus Infections****INTRODUCTION**

Persons infected with the etiologic retrovirus of acquired immunodeficiency syndrome (AIDS) (1-4)* may present with a variety of manifestations ranging from asymptomatic infection to severe immunodeficiency and life-threatening secondary infectious diseases or cancers. The rapid growth of knowledge about human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) has resulted in an increasing need for a system of classifying patients within this spectrum of clinical and laboratory findings attributable to HTLV-III/LAV infection (5-7).

Various means are now used to describe and assess patients with manifestations of HTLV-III/LAV infection and to describe their signs, symptoms, and laboratory findings. The surveillance definition of AIDS has proven to be extremely valuable and quite reliable for some epidemiologic studies and clinical assessment of patients with the more severe manifestations of disease. However, more inclusive definitions and classifications of HTLV-III/LAV infection are needed for optimum patient care, health planning, and public health control strategies, as well as for epidemiologic studies and special surveys. A broadly applicable, easily understood classification system should also facilitate and clarify communication about this disease.

In an attempt to formulate the most appropriate classification system, CDC has sought the advice of a panel of expert consultants† to assist in defining the manifestations of HTLV-III/LAV infection.

GOALS AND OBJECTIVES OF THE CLASSIFICATION SYSTEM

The classification system presented in this report is primarily applicable to public health purposes, including disease reporting and surveillance, epidemiologic studies, prevention and control activities, and public health policy and planning.

Immediate applications of such a system include the classification of infected persons for reporting of cases to state and local public health agencies, and use in various disease coding and recording systems, such as the forthcoming 10th revision of the International Classification of Diseases.

*The AIDS virus has been variously termed human T-lymphotropic virus type III (HTLV-III), lymphadenopathy-associated virus (LAV), AIDS-associated retrovirus (ARV), or human immunodeficiency virus (HIV). The designation human immunodeficiency virus (HIV) has recently been proposed by a subcommittee of the International Committee for the Taxonomy of Viruses as the appropriate name for the retrovirus that has been implicated as the causative agent of AIDS (4).

†The following persons served on the review panel: DS Burke, MD, RR Redfield, MD, Walter Reed Army Institute of Research, Washington, DC; J Chin, MD, State Epidemiologist, California Department of Health Services; LZ Cooper, MD, St Luke's-Roosevelt Hospital Center, New York City; JP Davis, MD, State Epidemiologist, Wisconsin Division of Health; MA Fischl, MD, University of Miami School of Medicine, Miami, Florida; G Friedland, MD, Albert Einstein College of Medicine, New York City; MA Johnson, MD, DI Abrams, MD, San Francisco General Hospital; D Mildvan, MD, Beth Israel Medical Center, New York City; CU Tuazon, MD, George Washington University School of Medicine, Washington, DC; RW Price, MD, Memorial Sloan-Kettering Cancer Center, New York City; C Konigsberg, MD, Broward County Public Health Unit, Fort Lauderdale, Florida; MS Gottlieb, MD, University of California—Los Angeles Medical Center; representatives of the National Institute of Allergy and Infectious Diseases, National Cancer Institute, National Institutes of Health, Center for Infectious Diseases, CDC.

HTLV-III/LAV — Continued

DEFINITION OF HTLV-III/LAV INFECTION

The most specific diagnosis of HTLV-III/LAV infection is by direct identification of the virus in host tissues by virus isolation; however, the techniques for isolating HTLV-III/LAV currently lack sensitivity for detecting infection and are not readily available. For public health purposes, patients with repeatedly reactive screening tests for HTLV-III/LAV antibody (e.g., enzyme-linked immunosorbent assay) in whom antibody is also identified by the use of supplemental tests (e.g., Western blot, immunofluorescence assay) should be considered both infected and infective (8-10).

Although HTLV-III/LAV infection is identified by isolation of the virus or, indirectly, by the presence of antibody to the virus, a presumptive clinical diagnosis of HTLV-III/LAV infection has been made in some situations in the absence of positive virologic or serologic test results. There is a very strong correlation between the clinical manifestations of AIDS as defined by CDC and the presence of HTLV-III/LAV antibody (11-14). Most persons whose clinical illness fulfills the CDC surveillance definition for AIDS will have been infected with the virus (12-14).

CLASSIFICATION SYSTEM

This system classifies the manifestations of HTLV-III/LAV infection into four mutually exclusive groups, designated by Roman numerals I through IV (Table 5). *The classification system applies only to patients diagnosed as having HTLV-III/LAV infection (see previous section, DEFINITION OF HTLV-III/LAV INFECTION).* Classification in a particular group is not explicitly intended to have prognostic significance, nor to designate severity of illness. However, classification in the four principal groups, I-IV, is hierarchical in that persons classified in a particular group should not be reclassified in a preceding group if clinical findings resolve, since clinical improvement may not accurately reflect changes in the severity of the underlying disease.

Group I includes patients with transient signs and symptoms that appear at the time of, or shortly after, initial infection with HTLV-III/LAV as identified by laboratory studies. All patients in Group I will be reclassified in another group following resolution of this acute syndrome.

TABLE 5. Summary of classification system for human T-lymphotropic virus type III/lymphadenopathy-associated virus

Group I.	Acute infection
Group II.	Asymptomatic infection*
Group III.	Persistent generalized lymphadenopathy*
Group IV.	Other disease
Subgroup A.	Constitutional disease
Subgroup B.	Neurologic disease
Subgroup C.	Secondary infectious diseases
Category C-1.	Specified secondary infectious diseases listed in the CDC surveillance definition for AIDS†
Category C-2.	Other specified secondary infectious diseases
Subgroup D.	Secondary cancers†
Subgroup E.	Other conditions

*Patients in Groups II and III may be subclassified on the basis of a laboratory evaluation.

†Includes those patients whose clinical presentation fulfills the definition of AIDS used by CDC for national reporting.

HTLV-III/LAV - Continued

Group II includes patients who have no signs or symptoms of HTLV-III/LAV infection. Patients in this category may be subclassified based on whether hematologic and/or immunologic laboratory studies have been done and whether results are abnormal in a manner consistent with the effects of HTLV-III/LAV infection.

Group III includes patients with persistent generalized lymphadenopathy, but without findings that would lead to classification in Group IV. Patients in this category may be subclassified based on the results of laboratory studies in the same manner as patients in Group II.

Group IV includes patients with clinical symptoms and signs of HTLV-III/LAV infection other than or in addition to lymphadenopathy. Patients in this group are assigned to *one or more* subgroups based on clinical findings. These subgroups are: A. constitutional disease; B. neurologic disease; C. secondary infectious diseases; D. secondary cancers; and E. other conditions resulting from HTLV-III/LAV infection. There is no *a priori* hierarchy of severity among subgroups A through E, and these subgroups are not mutually exclusive.

Definitions of the groups and subgroups are as follows:

Group I. Acute HTLV-III/LAV Infection. Defined as a mononucleosis-like syndrome, with or without aseptic meningitis, associated with seroconversion for HTLV-III/LAV antibody (15-16). Antibody seroconversion is required as evidence of initial infection; current viral isolation procedures are not adequately sensitive to be relied on for demonstrating the onset of infection.

Group II. Asymptomatic HTLV-III/LAV Infection. Defined as the absence of signs or symptoms of HTLV-III/LAV infection. To be classified in Group II, patients must have had no previous signs or symptoms that would have led to classification in Groups III or IV. Patients whose clinical findings caused them to be classified in Groups III or IV should not be reclassified in Group II if those clinical findings resolve.

Patients in this group may be subclassified on the basis of a laboratory evaluation. Laboratory studies commonly indicated for patients with HTLV-III/LAV infection include, but are not limited to, a complete blood count (including differential white blood cell count) and a platelet count. Immunologic tests, especially T-lymphocyte helper and suppressor cell counts, are also an important part of the overall evaluation. Patients whose test results are within normal limits, as well as those for whom a laboratory evaluation has not yet been completed, should be differentiated from patients whose test results are consistent with defects associated with HTLV-III/LAV infection (e.g., lymphopenia, thrombocytopenia, decreased number of helper [T_4] T-lymphocytes).

Group III. Persistent Generalized Lymphadenopathy (PGL). Defined as palpable lymphadenopathy (lymph node enlargement of 1 cm or greater) at two or more extra-inguinal sites persisting for more than 3 months in the absence of a concurrent illness or condition other than HTLV-III/LAV infection to explain the findings. Patients in this group may also be subclassified on the basis of a laboratory evaluation, as is done for asymptomatic patients in Group II (see above). Patients with PGL whose clinical findings caused them to be classified in Group IV should not be reclassified in Group III if those other clinical findings resolve.

Group IV. Other HTLV-III/LAV Disease. The clinical manifestations of patients in this group may be designated by assignment to one or more subgroups (A-E) listed below. Within Group IV, subgroup classification is independent of the presence or absence of lymphadenopathy. Each subgroup may include patients who are minimally symptomatic, as well as patients who are severely ill. Increased specificity for manifestations of HTLV-III/LAV infection, if needed for clinical purposes or research purposes or for disability determinations, may be achieved by creating additional divisions within each subgroup.

HTLV-III/LAV — Continued

Subgroup A. Constitutional disease. Defined as one or more of the following: fever persisting more than 1 month, involuntary weight loss of greater than 10% of baseline, or diarrhea persisting more than 1 month; and the absence of a concurrent illness or condition other than HTLV-III/LAV infection to explain the findings.

Subgroup B. Neurologic disease. Defined as one or more of the following: dementia, myelopathy, or peripheral neuropathy; and the absence of a concurrent illness or condition other than HTLV-III/LAV infection to explain the findings.

Subgroup C. Secondary infectious diseases. Defined as the diagnosis of an infectious disease associated with HTLV-III/LAV infection and/or at least moderately indicative of a defect in cell-mediated immunity. Patients in this subgroup are divided further into two categories:

Category C-1. Includes patients with symptomatic or invasive disease due to one of 12 specified secondary infectious diseases listed in the surveillance definition of AIDS[§]: *Pneumocystis carinii* pneumonia, chronic cryptosporidiosis, toxoplasmosis, extra-intestinal strongyloidiasis, isosporiasis, candidiasis (esophageal, bronchial, or pulmonary), cryptococcosis, histoplasmosis, mycobacterial infection with *Mycobacterium avium* complex or *M. kansasii*, cytomegalovirus infection, chronic mucocutaneous or disseminated herpes simplex virus infection, and progressive multifocal leukoencephalopathy.

Category C-2. Includes patients with symptomatic or invasive disease due to one of six other specified secondary infectious diseases: oral hairy leukoplakia, multidermatomal herpes zoster, recurrent *Salmonella* bacteremia, nocardiosis, tuberculosis, or oral candidiasis (thrush).

Subgroup D. Secondary cancers. Defined as the diagnosis of one or more kinds of cancer known to be associated with HTLV-III/LAV infection as listed in the surveillance definition of AIDS and at least moderately indicative of a defect in cell-mediated immunity[¶]: Kaposi's sarcoma, non-Hodgkin's lymphoma (small, noncleaved lymphoma or immunoblastic sarcoma), or primary lymphoma of the brain.

Subgroup E. Other conditions in HTLV-III/LAV infection. Defined as the presence of other clinical findings or diseases, not classifiable above, that may be attributed to HTLV-III/LAV infection and/or may be indicative of a defect in cell-mediated immunity. Included are patients with chronic lymphoid interstitial pneumonitis. Also included are those patients whose signs or symptoms could be attributed either to HTLV-III/LAV infection or to another coexisting disease not classified elsewhere, and patients with other clinical illnesses, the course or management of which may be complicated or altered by HTLV-III/LAV infection. Examples include: patients with constitutional symptoms not meeting the criteria for subgroup IV-A; patients with infectious diseases not listed in subgroup IV-C; and patients with neoplasms not listed in subgroup IV-D.

Reported by Center for Infectious Diseases, CDC.

Editorial Note: The classification system is meant to provide a means of grouping patients infected with HTLV-III/LAV according to the clinical expression of disease. It will require periodic revision as warranted by new information about HTLV-III/LAV infection. The defini-

[§]This subgroup includes patients with one or more of the specified infectious diseases listed whose clinical presentation fulfills the definition of AIDS as used by CDC for national reporting.

[¶]This subgroup includes those patients with one or more of the specified cancers listed whose clinical presentation fulfills the definition of AIDS as used by CDC for national reporting.

HTLV-III/LAV — Continued

tion of particular syndromes will evolve with increasing knowledge of the significance of certain clinical findings and laboratory tests. New diagnostic techniques, such as the detection of specific HTLV-III/LAV antigens or antibodies, may add specificity to the assessment of patients infected with HTLV-III/LAV.

The classification system defines a limited number of specified clinical presentations. Patients whose signs and symptoms do not meet the criteria for other groups and subgroups, but whose findings are attributable to HTLV-III/LAV infection, should be classified in subgroup IV-E. As the classification system is revised and updated, certain subsets of patients in subgroup IV-E may be identified as having related groups of clinical findings that should be separately classified as distinct syndromes. This could be accomplished either by creating additional subgroups within Group IV or by broadening the definitions of the existing subgroups.

Persons currently using other classification systems (6-7) or nomenclatures (e.g., AIDS-related complex, lymphadenopathy syndrome) can find equivalences with those systems and terminologies and the classification presented in this report. Because this classification system has only four principal groups based on chronology, presence or absence of signs and symptoms, and the type of clinical findings present, comparisons with other classifications based either on clinical findings or on laboratory assessment are easily accomplished.

This classification system does not imply any change in the definition of AIDS used by CDC since 1981 for national reporting. Patients whose clinical presentations fulfill the surveillance definition of AIDS are classified in Group IV. However, not every case in Group IV will meet the surveillance definition.

Persons wishing to comment on this material are encouraged to send comments in writing to the AIDS Program, Center for Infectious Diseases, CDC.

References

1. Gallo RC, Salahuddin SZ, Popovic M, et al. Frequent detection and isolation of cytopathic retroviruses (HTLV-III) from patients with AIDS and at risk for AIDS. *Science* 1984;224:500-3.
2. Barré-Sinoussi F, Chermann JC, Rey F, et al. Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS). *Science* 1983;220:868-71.
3. Levy JA, Hoffman AD, Kramer SM, Landis JA, Shimabukuro JM, Oshiro LS. Isolation of lymphocytopathic retroviruses from San Francisco patients with AIDS. *Science* 1984;225:840-2.
4. Coffin J, Haase A, Levy JA, et al. Human immunodeficiency viruses [Letter]. *Science* 1986;232:697.
5. CDC. Revision of the case definition of acquired immunodeficiency syndrome for national reporting—United States. *MMWR* 1985;34:373-5.
6. Haverkos HW, Gottlieb MS, Killen JY, Edelman R. Classification of HTLV-III/LAV-related diseases [Letter]. *J Infect Dis* 1985;152:1095.
7. Redfield RR, Wright DC, Tramont EC. The Walter Reed staging classification for HTLV-III/LAV infection. *N Engl J Med* 1986;314:131-2.
8. CDC. Antibodies to a retrovirus etiologically associated with acquired immunodeficiency syndrome (AIDS) in populations with increased incidences of the syndrome. *MMWR* 1984;33:377-9.
9. CDC. Update: Public Health Service Workshop on Human T-Lymphotropic Virus Type III Antibody Testing—United States. *MMWR* 1985;34:477-8.
10. CDC. Additional recommendations to reduce sexual and drug abuse-related transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus. *MMWR* 1986;35:152-5.
11. Selik RM, Haverkos HW, Curran JW. Acquired immune deficiency syndrome (AIDS) trends in the United States, 1978-1982. *Am J Med* 1984;76:493-500.
12. Sarngadharan MG, Popovic M, Bruch L, Schüpbach J, Gallo RC. Antibodies reactive with human T-lymphotropic retroviruses (HTLV-III) in the serum of patients with AIDS. *Science* 1984;224:506-8.
13. Safai B, Sarngadharan MG, Groopman JE, et al. Seroepidemiological studies of human T-lymphotropic retrovirus type III in acquired immunodeficiency syndrome. *Lancet* 1984;i:1438-40.
14. Laurence J, Brun-Vezinet F, Schutzer SE, et al. Lymphadenopathy associated viral antibody in AIDS. Immune correlations and definition of a carrier state. *N Engl J Med* 1984;311:1269-73.

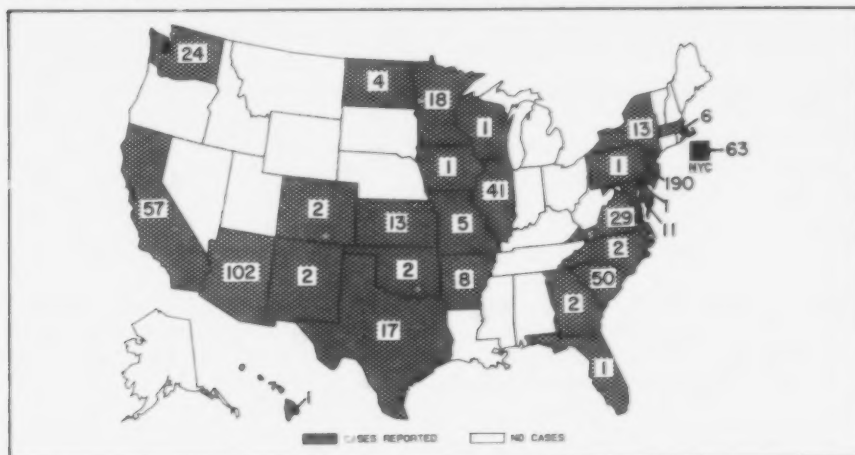
HTLV-III/LAV — Continued

15. Ho DD, Sarngadharan MG, Resnick L, Dimarzo-Veronese F, Rota TR, Hirsch MS. Primary human T-lymphotropic virus type III infection. *Ann Intern Med* 1985;103 880-3.
16. Cooper DA, Gold J, Maclean P, et al. Acute AIDS retrovirus infection. Definition of a clinical illness associated with seroconversion. *Lancet* 1985;1 537-40.

Erratum: Vol. 35, No. 17

- p. 285 In the article, "Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus Antibody Testing at Alternate Sites," the figures in Table 5 for Colorado are incorrect. The correct figures are: Testing sites—10; Pretest sessions—4,316; Persons tested—4,316; Post-test sessions—4,316; and Percent positive—12.0.

FIGURE I. Reported measles cases — United States, weeks 16-19, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/40004 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

5/21

CENTERS FOR DISEASE CONTROL

May 30, 1986 / Vol. 35 / No. 21

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 341 Arboviral Infections of the Central Nervous System — United States, 1985
350 Chronic Fatigue Possibly Related to Epstein-Barr Virus — Nevada

JUN 19 1986

Arboviral Infections of the Central Nervous System — United States, 1985

In 1985, arboviral infections of the central nervous system (CNS) were reported among 90 persons in the United States (Table 1, Figures 1 and 2). A St. Louis encephalitis (SLE) outbreak occurred in Mesa County, Colorado, leading to 17 cases, including one fatality. Four sporadic SLE cases were reported from Texas (one) and California (three). One of the California cases occurred in a Los Angeles resident, where an SLE outbreak occurred in 1984. One case of western equine encephalitis was reported from Texas. Endemic LaCrosse virus transmission in the midwest led to 68 cases of CNS infection.

ST. LOUIS ENCEPHALITIS

The SLE outbreak that occurred in Mesa County in western Colorado (Figure 3) included principally residents of Grand Junction, the county's largest town. The age-adjusted attack rate for Grand Junction was 33.5/100,000, compared with 12.2/100,000 for the remainder of the county. Active surveillance failed to disclose cases in neighboring counties. Attack rates were highest among the elderly, but there was no clear increase in risk with advancing age. The age-adjusted attack rate for females was nearly double that for males (26.5/100,000 and 13.7/100,000, respectively; the standard error for the adjusted attack rate for females was 7.7/100,000). One patient, a 73-year-old woman, died. In an ecologic investigation undertaken in late September, fewer than 0.1 *Culex tarsalis* mosquitoes were caught per trap night. However, cool weather and declining daylight hours mitigated against successful collections. No virus was isolated from 646 pooled arthropods. A serosurvey of Grand Junction residents disclosed inapparent infections among 4% of the city residents, i.e., the outbreak may have led to approximately 1,100 infections. Infection rates for males and females were similar; therefore, increased risk for clinical disease among females could not be attributed to greater exposure.

Elsewhere in the west, sporadic SLE cases were reported from Dawson County, Texas, and from California (three cases). California cases occurred in 17- and 31-year-old males from Riverside County (the latter may have been infected in the Mohave Valley, Arizona) and a 61-year-old Los Angeles woman. Evidence of enzootic SLE transmission was found near the residence of the Los Angeles patient; an SLE virus isolate was recovered from *Cx. peus* collected in Encino, and a sentinel chicken located near the Sepulveda Reservoir seroconverted to SLE virus.

No human cases were reported in the eastern and central United States for the second consecutive year, and avian surveillance disclosed negligible enzootic transmission except in Florida.

OTHER ARBOVIRAL INFECTIONS OF THE CNS

No human eastern equine encephalitis cases were reported. Equine cases occurred principally in coastal southeastern states (Figure 2). Seroconversions in sentinel chickens were observed as far west as Houston, Texas.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES/PUBLIC HEALTH SERVICE

HE 20.7009:

Arboviral Infections — Continued

Western equine encephalitis was reported in a 27-year-old man from Ellis County, Texas. Equine cases were reported from scattered western states and from Illinois and Indiana, at the eastern-most range of the virus.

LaCrosse virus infections were reported principally from the upper midwest where the disease is endemic. Counties in an endemic focus in southwestern West Virginia reported cases for the third consecutive year.

Reported by E Hughes, Mobile County Health Dept, L Lauerman, DVM, Alabama State Dept of Agriculture and Industries, WE Birch, DVM, State Epidemiologist, Alabama State Dept of Public Health; J Doll, PhD, M Wright, R Cheshier, PhD, W Stromberg, PhD, GG Caldwell, MD, State Epidemiologist, Arizona Dept of Health Svcs; TC McChesney, DVM, State Epidemiologist, Arkansas Div of Health; Microbiology Reference Laboratory, Long Beach, Long Beach City Health Dept, Arbovirus Research Unit, School of Public Health, University of California, Berkeley, Epidemiology, Laboratory, and Vector Control Svcs, County of Los Angeles Dept of Health Svcs, Orange County Health Care Agency, County of Riverside, R Emmons, MD, Viral and Rickettsial Disease Laboratory Section, R Murray, PhD, R Roberto, MD, Infectious Disease Section, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; J Emerson, DVM, SW Ferguson, PhD, State Epidemiologist, Colorado Dept of Health; A Main, PhD, R Shope, MD, Yale Arbovirus Research Unit, New Haven, D Mayo, MA Markowski, JL Hadler, MD, State Epidemiologist, Connecticut

TABLE 1. Reported arboviral infections of the CNS — United States, 1955-1985

Year	Cases by etiology*					Total
	SLE	WEE	EEE	California serogroup viruses†	Other	
1955	107	37	15		0	159
1956	563	47	15		0	625
1957	147	35	5		0	187
1958	94	141	2		0	237
1959	118	14	36		0	168
1960	21	21	3		0	45
1961	42	27	1		0	70
1962	253	17	0		0	270
1963	19	56	0	1	0	76
1964	470	64	5	42	0	581
1965	58	172	8	59	0	297
1966	323	47	4	64	0	438
1967	11	18	1	53	0	83
1968	35	17	12	66	1 VEE	131
1969	16	21	3	67	1 VEE	108
1970	15	4	2	89	1 POW	111
1971	57	11	4	58	20§	150
1972	13	8	0	46	5¶	72
1973	5	4	7	75	0	91
1974	74	2	4	30	1 POW	111
1975	1,815	133	3	160	3 POW	2,114
1976	379	1	0	47	0	427
1977	132	41	1	65	1 POW	240
1978	26	3	5	109	1 POW	144
1979	32	3	3	139	0	177
1980	125	0	8	49	0	182
1981	15	19	0	91	0	125
1982	34	9	12	130	0	185
1983	20	7	14	64	0	105
1984	33	2	5	89	0	129
1985	21	1	0	68	0	90
Total	5,073	982	178	1,661	34	7,928

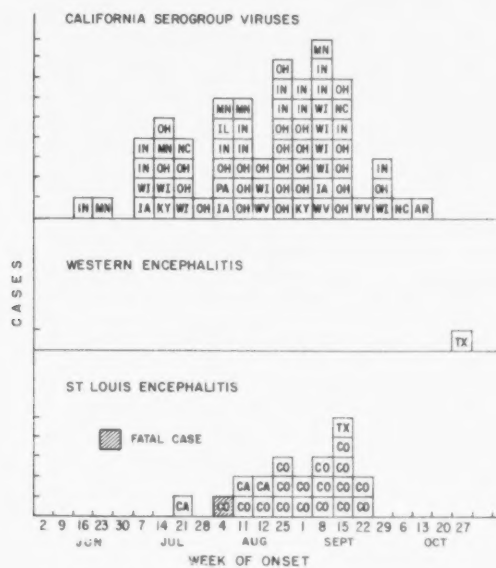
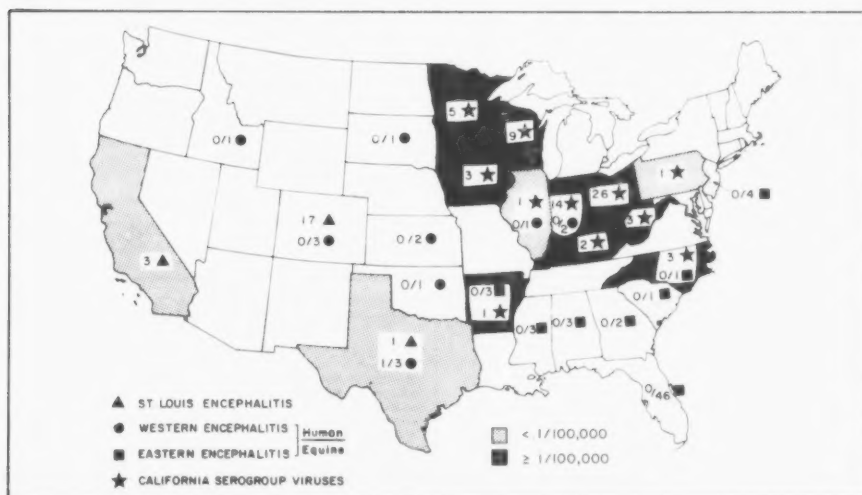
*SLE = St Louis encephalitis; WEE = western equine encephalitis; EEE = eastern equine encephalitis; POW = Powassan encephalitis; VEE = Venezuelan equine encephalitis. Source: Division of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

†No data available before 1963.

§VEE, 19 cases; POW, one case.

¶VEE, two imported cases; POW, three cases.

Arboviral Infections — Continued

FIGURE 1. Arboviral infections of the central nervous system, by state of residence, week of onset, and etiology — United States, 1985**FIGURE 2. Arboviral infections of the central nervous system, by state of residence and etiology — United States, 1985**

Arboviral Infections - Continued

State Dept of Health Svcs; M Verma, PhD, J Jean, PhD, PR Silverman, DrPH, State Epidemiologist, Delaware Dept of Health and Social Svcs; MP Hunt, J Gamble, East Volusia County, Mosquito Abatement District, Daytona Beach, HL Rubin, DVM, State of Florida Dept of Agriculture and Consumer Svcs, L McCaig, S Lieb, MPH, W Bigler, PhD, FM Wellings, PhD, EC Prather, MD, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs; J Cole, DVM, University of Georgia, Tifton, RK Sykes, DVM, State Epidemiologist, Georgia Dept of Human Resources; W Turnock, MD, Chicago Dept of Health, HJ Dominick, C Langkop, BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; MJ Sinsko, PhD, CL Barrett, MD, State Epidemiologist, Indiana State Board of Health; NS Swack, PhD, LA Wintermeyer, MD, State Epidemiologist, Iowa Dept of Health, J Pearson, DVM, US Dept of Agriculture, Ames, Iowa; R French, MD, Acting State Epidemiologist, Kansas State Dept of Health and Environment; JC McCammon, MD, Louisville and Jefferson County Dept of Health, MW Hinds, MD, State Epidemiologist, Kentucky Dept of Health Svcs; HB Bradford, Jr, PhD, L MacFarland, DrPH, Acting State Epidemiologist, Louisiana Dept of Health and Human Resources; T Scott, PhD, University of Maryland, College Park, G Stern, DVM, Maryland Dept of Agriculture, C Lazar, MD, M Josephs, PhD, E Israel, MD, State Epidemiologist, Maryland State Dept of Health and Mental Hygiene; V Berardi, H Maxfield, GF Grady, MD, State Epidemiologist, The State Laboratory Institute, Massachusetts Dept of Public Health; H McGee, MPH, KR Wilcox, Jr, MD, State Epidemiologist, Michigan Dept of Public Health; TF Smith, PhD, Mayo Clinic, Rochester, L Boyd, PhD, J Korfath, MPH, MT Osterholm, PhD, State Epidemiologist, Minnesota Dept of Health; DL Sykes, QA Long, Gulf Coast Mosquito Control Commission, Gulfport, FE Thompson, MD, State Epidemiologist, Mississippi State Dept of Health; J Goins, PhD, HD Donnell, Jr, MD, State Epidemiologist, Missouri Div of

(Continued on page 349)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	21st Week Ending			Cumulative, 21st Week Ending		
	May 24, 1986	May 25, 1985	Median 1981-1985	May 24, 1986	May 25, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	292	152	N	5,053	2,807	N
Aseptic meningitis	60	98	89	1,707	1,493	1,588
Encephalitis						
Primary (arthropod-borne & unsp.)	8	13	16	297	360	360
Post-infectious	3	1	4	37	54	41
Gonorrhea	11,154	15,146	16,081	323,287	317,556	357,318
Civilian	309	384	384	6,307	7,828	9,812
Military	261	456	439	8,634	9,587	9,030
Hepatitis						
Type A	363	412	420	9,985	9,938	9,276
Type B	45	83	N	1,346	1,676	N
Non A, Non B	60	121	121	1,963	2,189	2,933
Unspecified	8	19	N	210	248	N
Legionellosis	4	6	6	109	156	91
Leprosy	7	18	18	284	296	296
Malaria	169	74	82	2,733	1,262	1,262
Total*	164	68	N	2,617	1,019	N
Indigenous	5	6	N	116	243	N
Imported	33	40	54	1,262	1,225	1,424
Measles	33	39	54	1,260	1,220	1,421
Total	-	1	1	2	5	6
Civilian	186	68	68	1,563	1,642	1,774
Military	76	21	23	998	605	605
Rubella (German measles)	18	13	30	220	202	489
Syphilis (Primary & Secondary)	275	479	578	10,065	10,002	12,133
Civilian	4	7	N	78	76	150
Military	1	1	1	142	158	N
Toxic Shock syndrome	364	449	477	8,060	8,045	8,904
Tuberculosis	1	8	7	24	45	49
Typhoid fever	4	1	3	98	109	137
Typhus fever, tick-borne (RMSF)	23	8	13	89	69	100
Rabies, animal	70	111	129	2,169	2,019	2,444

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986			Cum 1986	
Anthrax			Leptospirosis		17
Botulism			Plague		-
Foodborne	4		Poliomyelitis, Paralytic		-
Infant	21		Psittacosis (Mass 1, Wash 2)		26
Other			Rabies, human		-
Brucellosis (Ala 1)	23		Tetanus		17
Cholera			Trichinosis (Fla 1)		9
Congenital rubella syndrome	2		Typhus fever, flea-borne (endemic, murine)		10
Congenital syphilis, ages < 1 year	11				
Diphtheria					

*Three of the 169 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
May 24, 1986 and May 25, 1985 (21st Week)

Reporting Area	AIDS Cum 1986	Aseptic Mening- itis 1986	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral, by type)				Legionel- losis 1986	Leprosy Cum 1986
			Primary	Post-in- fectious			A	B	NA NB	Unspeci- fied		
			Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	
UNITED STATES	5,053	60	297	37	323,287	317,556	261	363	45	60	8	109
NEW ENGLAND	215	1	9	2	7,451	9,608	14	36	1	3	1	3
Maine	11	-	-	-	383	388	-	4	-	-	-	-
NH	6	-	2	-	196	202	-	-	-	-	-	-
VT	2	-	2	1	106	104	-	-	-	-	-	-
Mass	112	-	2	-	3,246	3,583	9	17	-	3	-	-
RI	13	-	-	-	734	716	1	3	-	-	1	3
Conn	71	1	3	1	2,786	4,635	4	12	1	-	-	-
MID ATLANTIC	1,954	12	47	1	55,442	45,432	17	21	7	2	-	9
Upstate NY	170	1	18	-	6,412	6,485	9	12	4	1	-	1
N.Y. City	1,339	2	11	-	31,876	21,062	-	1	2	-	-	7
N.J.	304	9	5	-	7,314	8,225	8	8	1	1	-	-
Pa	141	-	13	1	9,840	9,660	-	-	-	-	-	1
S. CENTRAL	301	4	64	5	41,659	45,077	12	54	-	2	3	4
Ohio	65	-	18	2	10,378	11,544	8	22	-	-	3	-
Ind	28	3	7	2	4,911	4,122	-	10	-	-	-	-
Ill	138	1	16	1	11,472	12,676	4	22	-	2	-	3
Mich	56	U	22	-	12,816	12,879	U	U	U	U	U	1
Wis	14	-	1	-	2,082	3,856	-	-	-	-	-	-
W. CENTRAL	86	1	9	6	14,558	15,846	30	22	3	-	1	2
Minn	41	-	5	-	2,104	2,341	5	4	-	-	-	1
Iowa	7	1	4	-	1,488	1,667	7	4	3	-	-	-
Mo	19	-	-	-	7,464	7,459	6	11	-	-	1	-
N. Dak	2	-	-	-	120	110	-	-	-	-	-	-
S. Dak	1	-	-	-	301	293	12	1	-	-	-	-
Nebr	4	-	-	-	936	1,438	-	-	-	-	-	-
Kans	12	-	-	8	2,145	2,538	-	2	-	-	-	1
S. ATLANTIC	703	13	45	14	90,336	68,747	52	87	10	5	1	1
Del	12	-	3	-	1,354	1,517	1	-	-	-	-	-
Md	78	1	11	-	9,722	11,122	1	19	2	-	-	-
D.C.	95	-	-	-	6,645	5,652	1	2	-	-	-	-
Va	71	2	16	1	6,955	7,131	3	6	1	-	-	1
W. Va	2	-	6	-	952	973	1	1	-	-	-	-
N.C.	29	-	8	1	13,875	13,006	2	6	1	1	-	-
S.C.	17	2	-	-	7,475	8,450	-	22	-	-	-	-
Ga	87	-	-	-	9,359	-	2	6	2	1	-	-
Fla	312	8	1	12	23,999	20,896	41	25	4	3	1	-
E. CENTRAL	48	3	20	2	27,722	27,463	4	41	2	1	1	1
Ky	13	1	8	1	3,204	3,040	-	7	-	-	-	-
Tenn	20	1	2	1	10,903	10,924	2	13	2	-	-	-
Ala	10	-	9	-	7,839	8,862	1	17	-	-	-	1
Miss	5	1	1	-	5,776	4,637	1	4	-	1	-	-
W. S. CENTRAL	358	19	31	2	39,650	44,278	54	42	4	36	-	7
Ark	14	-	-	-	3,792	4,261	5	1	1	-	-	-
La	58	-	2	-	7,242	8,934	1	5	-	-	-	-
Okla	17	2	7	-	4,873	4,563	10	6	-	-	-	-
Tex	269	17	22	2	23,743	26,520	38	30	3	36	-	7
MOUNTAIN	147	5	12	1	10,299	10,202	40	23	5	9	-	7
Mont	3	-	-	1	261	297	-	-	-	-	-	-
Idaho	1	-	-	-	320	340	2	-	1	-	-	-
Wyo	2	-	2	-	228	257	-	2	-	-	-	-
Colo	81	-	2	-	2,646	3,194	4	5	-	4	-	3
N. Mex	6	-	1	-	1,046	1,200	-	-	-	-	-	-
Ariz	36	-	5	-	3,383	2,819	21	11	1	4	-	2
Utah	7	4	1	-	434	445	5	2	3	1	-	-
Nev	11	1	1	-	1,981	1,650	4	3	-	-	-	2
PACIFIC	1,241	2	60	4	46,170	50,903	38	37	13	2	1	75
Wash	34	-	5	-	3,654	3,634	25	17	10	1	-	7
Oreg	25	-	-	-	1,913	2,547	11	9	3	1	1	-
Calif	1,163	U	53	4	38,804	42,749	U	U	U	U	U	57
Alaska	9	1	2	-	1,228	1,213	-	6	-	-	-	-
Hawaii	10	1	-	-	571	760	2	5	-	-	-	11
Guam	-	U	-	-	47	78	U	U	U	U	U	1
P.R.	56	4	3	-	902	1,501	2	2	-	1	-	7
V.I.	1	-	-	-	87	193	-	2	-	-	-	-
Pac. Trust Terr	-	-	-	-	105	421	5	-	-	1	-	18
Amer Samoa	-	U	-	-	14	-	U	U	U	U	U	1

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 24, 1986 and May 25, 1985 (21st Week)

Reporting Area	Malaria	Measles (Rubella)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
		Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986
UNITED STATES	284	164	2,617	5	116	1,262	1,262	186	1,563	76	998	605	18	220	202
NEW ENGLAND	16	-	16	-	-	100	97	-	35	5	51	30	2	4	6
Maine	-	-	-	-	-	-	18	-	-	-	2	2	-	-	-
NH	-	-	-	-	-	-	5	-	10	-	15	16	-	1	2
VT	1	-	-	-	-	-	14	-	-	-	2	2	-	-	-
Mass	10	-	15	-	-	96	19	-	1	5	16	4	-	-	4
RI	2	-	1	-	-	-	14	-	6	-	1	4	2	2	-
Conn	3	-	-	-	-	4	27	-	18	-	15	2	-	1	-
MID ATLANTIC	34	73	1,019	-	11	96	196	7	86	4	97	66	-	26	47
Upstate N.Y.	8	-	7	-	10	48	64	2	33	4	66	33	-	18	8
N.Y. City	11	12	180	-	1	28	40	-	5	-	3	9	-	5	20
N.J.	3	54	821	-	-	7	27	1	20	-	6	2	-	3	7
Pa.	12	7	11	-	-	13	65	4	28	-	22	22	-	-	12
E.N. CENTRAL	10	34	384	-	4	367	165	144	841	2	157	85	-	10	19
Ohio	2	-	-	-	-	43	71	4	82	2	67	14	-	-	-
Ind	-	-	-	-	-	1	17	2	18	-	16	11	-	-	-
Ill	4	34	240	-	1	220	40	138	501	-	19	13	-	6	5
Mich	4	U	-	U	-	50	36	U	127	U	20	8	U	3	13
Wis	-	-	124	-	3	53	1	-	113	-	35	39	-	1	1
W.N. CENTRAL	7	1	123	1	14	6	66	7	64	2	52	49	1	9	10
Minn	3	1	22	-	4	2	14	-	1	-	24	11	-	-	1
Iowa	1	-	-	-	1	-	7	1	12	-	9	3	-	-	-
Mo.	2	-	5	-	4	2	24	-	13	-	4	10	-	1	-
N. Dak	-	-	6	-	1	1	-	-	2	-	2	6	-	-	2
S. Dak	-	-	-	-	-	-	2	-	1	-	3	1	-	-	-
Nebr	1	-	-	-	-	-	7	-	-	-	-	1	-	-	-
Kans	-	-	90	15	4	1	12	6	35	2	10	17	1	8	7
S. ATLANTIC	40	7	330	1	29	151	259	2	102	51	398	150	-	7	24
Del	-	-	1	-	-	-	1	-	-	3	210	-	-	-	-
Md	7	-	18	15	7	20	33	-	6	38	62	62	-	-	1
D.C.	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
Va	8	2	15	-	18	17	49	-	17	2	13	3	-	-	1
W. Va	-	-	2	-	-	23	3	1	30	-	5	-	-	-	9
N.C.	4	-	1	-	1	1	43	-	9	-	18	8	-	-	-
S.C.	2	-	274	-	-	-	24	-	11	-	5	-	-	-	-
Ga	4	5	7	-	1	8	39	-	10	7	70	47	-	-	2
Fla	15	-	12	-	2	80	65	1	19	1	15	30	-	7	11
E.S. CENTRAL	6	2	3	-	-	-	72	1	17	-	18	6	-	1	1
Ky	2	-	-	-	-	-	12	-	3	-	1	1	-	1	1
Tenn	-	-	1	-	-	-	30	1	12	-	5	1	-	-	-
Ala	2	-	-	-	-	-	22	-	1	-	12	2	-	-	-
Miss	2	2	2	-	-	-	8	-	1	-	-	2	-	-	-
W.S. CENTRAL	21	19	351	3	28	81	105	8	109	2	30	73	11	48	18
Ark	-	-	275	-	2	-	14	-	7	-	2	10	-	-	1
La	4	-	-	-	-	9	15	-	-	-	4	2	-	-	-
Okla	2	-	6	-	4	-	14	N	N	2	24	61	-	-	1
Tex	15	19	70	3	22	72	62	8	102	-	-	-	11	48	16
MOUNTAIN	8	28	194	-	10	354	51	16	165	2	101	28	4	5	4
Mont	-	1	1	-	1	136	7	1	5	1	6	3	-	-	-
Idaho	1	-	-	-	-	63	1	-	2	-	26	-	-	-	1
Wyo	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo	1	-	2	-	4	5	9	1	7	1	24	10	-	-	-
N. Mex	-	-	16	-	5	3	6	N	N	-	9	4	-	-	2
Ariz	3	27	175	-	-	147	14	14	139	-	24	5	-	1	1
Utah	2	-	-	-	-	-	6	-	9	-	11	6	1	1	-
Nev	1	-	-	-	-	-	6	-	3	-	-	-	3	3	-
PACIFIC	142	-	217	-	20	107	251	1	144	8	94	118	-	110	73
Wash	11	-	47	-	7	1	34	-	5	5	38	18	-	3	2
Oreg	12	-	-	-	2	3	20	N	N	3	8	17	-	-	1
Calif	119	U	151	U	10	94	188	U	126	U	44	77	U	105	47
Alaska	-	-	-	-	-	-	8	-	4	-	1	3	-	-	1
Hawaii	-	-	19	-	1	9	1	1	9	-	3	3	-	2	22
Guam	1	U	3	U	-	10	-	U	2	U	-	-	U	2	1
PR	3	-	18	-	-	46	3	-	16	-	5	2	-	58	9
VI	-	-	-	-	-	10	-	-	9	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-
Amer Samoa	-	U	1	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations

N Not notifiable U Unavailable [†]International [§]Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
May 24, 1986 and May 25, 1985 (21st Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	10,065	10,002	4	8,060	8,045	24	98	89	2,169
NEW ENGLAND	203	225	1	266	272	-	4	1	2
Maine	13	7	-	25	19	-	-	-	-
NH	6	3	-	7	11	-	-	-	-
Vt	6	-	1	9	4	-	-	-	-
Mass	99	116	-	124	166	-	3	1	-
RI	14	6	-	19	21	-	-	-	1
Conn	65	93	-	82	51	-	1	-	1
MID ATLANTIC	1,489	1,352	-	1,608	1,459	-	10	1	181
Upstate N.Y.	69	103	-	244	239	-	1	1	29
N.Y. City	804	850	-	787	743	-	5	-	1
N.J.	286	275	-	286	161	-	3	-	5
Pa	330	124	-	291	316	-	1	-	146
E N CENTRAL	410	486	1	1,019	978	-	7	14	44
Ohio	53	61	-	171	181	-	1	14	5
Ind	50	36	1	119	117	-	-	-	9
Ill	222	264	-	457	424	-	1	-	15
Mich	59	103	U	221	201	-	4	-	5
Wis	26	22	-	51	55	-	1	-	10
W N CENTRAL	104	107	-	239	207	7	5	3	330
Minn	18	26	-	55	39	-	1	-	35
Iowa	5	14	-	22	30	1	-	-	74
Mo	55	47	-	121	98	6	4	1	37
N Dak	2	-	-	4	2	-	-	-	84
S Dak	1	4	-	10	10	-	-	-	65
Nebr	8	6	-	4	9	-	-	-	5
Kans	15	10	-	23	19	-	-	2	30
S ATLANTIC	2,862	2,492	-	1,557	1,682	4	13	28	539
Del	16	16	-	16	16	-	-	-	-
Md	192	169	-	111	152	1	3	3	306
D.C.	140	147	-	53	75	-	1	-	-
Va	177	134	-	142	142	1	3	7	80
W Va	8	4	-	47	42	-	2	3	11
N.C.	199	276	-	219	208	1	2	5	3
S.C.	279	301	-	171	193	-	-	9	15
Ga	383	-	-	229	269	1	-	1	67
Fla	1,468	1,445	-	569	585	-	2	-	57
E S CENTRAL	669	835	-	714	710	3	-	13	124
Ky	29	32	-	179	141	2	-	1	36
Tenn	261	253	-	201	225	1	-	6	56
Ala	237	282	-	241	239	-	-	2	32
Miss	142	268	-	93	105	-	-	4	-
W S CENTRAL	2,099	2,530	-	979	878	7	5	27	339
Ark	101	126	-	115	87	4	-	1	75
La	355	425	-	171	138	1	-	-	7
Okla	64	69	-	95	111	2	1	21	28
Tex	1,579	1,910	-	598	542	-	4	5	229
MOUNTAIN	225	302	-	176	201	2	5	2	353
Mont	2	1	-	7	24	-	1	1	129
Idaho	4	3	-	5	11	-	-	-	-
Wyo	-	5	-	-	4	-	-	1	164
Colo	73	73	-	10	27	-	1	-	-
N Mex	26	36	-	40	38	1	-	-	3
Ariz	96	167	-	82	85	-	1	-	57
Utah	4	3	-	17	6	1	2	-	-
Nev	20	14	-	15	6	-	-	-	-
PACIFIC	2,004	1,673	2	1,502	1,658	1	49	-	257
Wash	48	57	2	87	96	-	2	-	-
Oreg	43	36	-	54	55	-	-	-	-
Calif	1,894	1,548	U	1,235	1,378	-	44	-	249
Alaska	1	1	-	24	56	1	1	-	8
Hawaii	19	31	-	102	73	-	2	-	-
Guam	1	2	U	30	16	-	-	-	-
P.R.	333	340	-	119	128	-	2	-	19
VI	-	1	-	1	1	-	-	-	-
Pac. Trust Terr	112	40	-	13	29	-	27	-	-
Amer Samoa	-	-	U	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
May 24, 1986 (21st Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	654	448	128	45	14	19	55	S ATLANTIC	1,212	746	291	99	29	44	45
Boston, Mass	163	104	39	8	5	7	22	Atlanta, Ga	177	114	38	15	2	8	5
Bridgeport, Conn	42	24	12	3	2	1	-	Baltimore, Md	232	125	60	24	11	12	12
Cambridge, Mass	33	24	5	1	2	1	4	Charlotte, NC	87	54	24	6	-	3	3
Fall River, Mass	34	31	3	-	-	-	3	Jacksonville, Fla	94	52	26	6	4	3	-
Hartford, Conn	51	29	13	6	2	1	1	Miami, Fla §	100	64	28	5	-	6	2
Lowell, Mass	24	18	4	2	-	-	1	Norfolk, Va	86	45	16	3	-	2	5
Lynn, Mass	18	13	5	-	-	-	-	Richmond, Va	23	13	6	1	-	3	-
New Bedford, Mass §	23	22	1	-	-	-	-	Savannah, Ga	23	13	6	1	-	3	-
New Haven, Conn	58	40	11	4	1	2	1	St Petersburg, Fla	87	78	6	3	-	-	3
Providence, RI	69	41	15	10	-	3	10	Tampa, Fla	79	45	21	4	3	3	3
Somerville, Mass	10	8	1	1	-	-	3	Washington, DC	163	89	44	23	5	2	2
Springfield, Mass	49	34	10	3	1	1	3	Wilmington, Del	24	19	3	1	1	-	-
Waterbury, Conn	30	25	4	1	-	-	3								
Worcester, Mass	50	35	5	6	1	3	3								
MID ATLANTIC	2,751	1,796	574	234	65	82	125	ES CENTRAL	907	557	219	59	36	36	45
Albany, N.Y.	52	34	11	3	2	2	2	Birmingham, Ala	87	35	13	2	-	4	-
Allentown, Pa	17	16	1	-	-	-	-	Chattanooga, Tenn	58	38	11	5	3	1	2
Buffalo, N.Y.	129	86	31	9	2	1	6	Knoxville, Tenn	91	61	23	4	2	1	7
Camden, N.J.	35	22	8	4	1	-	-	Louisville, Ky	136	79	47	3	6	1	7
Elizabeth, N.J.	19	16	2	1	-	-	-	Memphis, Tenn	209	114	42	17	8	29	6
Erie, Pa †	45	37	7	1	-	-	3	Mobile, Ala	103	70	16	5	11	1	7
Jersey City, N.J.	45	27	10	6	1	1	1	Montgomery, Ala	66	43	12	6	1	4	7
N.Y. City, N.Y.	1,400	882	302	147	37	32	58	Nashville, Tenn	107	65	33	6	3	-	5
Newark, N.J.	84	42	18	10	8	6	7								
Paterson, N.J.	35	21	6	4	1	3	3	WS CENTRAL	1,289	737	333	127	47	45	45
Philadelphia, Pa	420	261	102	24	9	24	24	Austin, Tex	51	32	10	7	1	1	2
Pittsburgh, Pa †	65	44	19	1	-	1	2	Baton Rouge, La	46	21	16	5	3	1	1
Reading, Pa	30	25	5	-	-	-	-	Corpus Christi, Tex	39	22	9	5	2	1	2
Rochester, N.Y.	139	105	19	10	1	4	9	Dallas, Tex	202	116	49	21	7	9	3
Schenectady, N.Y.	28	28	2	-	-	-	2	El Paso, Tex	52	29	13	6	2	2	2
Scranton, Pa †	27	22	4	-	-	1	-	Fort Worth, Tex	94	60	14	9	7	4	5
Syracuse, N.Y.	96	72	14	5	2	3	3	Houston, Tex	283	134	37	33	11	8	6
Trenton, N.J.	33	16	5	8	1	3	-	Little Rock, Ark	65	43	12	7	1	2	7
Utica, N.Y.	20	16	4	-	-	-	1	New Orleans, La	137	80	27	14	5	1	-
Yonkers, N.Y.	32	26	4	1	-	1	2	San Antonio, Tex	183	112	44	10	7	10	13
								Shreveport, La	50	36	10	4	-	-	-
								Tulsa, Okla	87	52	22	6	1	6	4
EN CENTRAL	2,330	1,467	551	173	59	80	102	MOUNTAIN	627	384	141	57	25	20	34
Akron, Ohio	71	41	18	5	3	4	1	Albuquerque, N.Mex	84	46	26	2	7	3	6
Canton, Ohio	37	31	6	-	-	-	3	Colorado Springs, Colo	52	30	9	8	3	2	8
Chicago, Ill §	564	361	125	46	10	22	16	Denver, Colo	88	57	17	9	2	3	3
Cincinnati, Ohio	171	103	49	11	6	2	19	Las Vegas, Nev	107	67	27	11	1	1	7
Cleveland, Ohio	172	99	44	17	3	9	9	Ogden, Utah	23	14	4	4	-	1	3
Columbus, Ohio	130	81	35	8	5	1	2	Phoenix, Ariz	122	67	29	12	9	5	2
Dayton, Ohio	120	71	23	14	9	3	4	Pueblo, Colo	25	14	8	1	-	1	1
Detroit, Mich	255	145	64	30	10	6	8	Salt Lake City, Utah	46	31	8	3	1	3	-
Evansville, Ind	42	36	5	1	-	-	-	Tucson, Ariz	80	58	12	7	2	1	4
Fort Wayne, Ind	51	37	10	4	-	-	5								
Gary, Ind	17	10	2	3	1	1	1	PACIFIC	1,973	1,300	378	182	59	50	109
Grand Rapids, Mich	61	43	13	1	2	2	9	Berkeley, Calif	24	14	5	1	2	2	-
Indianapolis, Ind	192	104	62	13	4	9	6	Fresno, Calif	110	73	21	8	4	4	5
Madison, Wis	39	29	2	3	-	5	2	Glendale, Calif §	27	24	3	-	-	-	2
Milwaukee, Wis	138	95	32	4	1	6	6	Honolulu, Hawaii	74	53	11	6	2	2	7
Peoria, Ill	44	31	8	1	1	3	2	Long Beach, Calif	103	69	27	4	2	1	15
Rockford, Ill	34	22	10	-	-	2	2	Los Angeles, Calif §	552	345	111	64	22	6	18
South Bend, Ind	51	35	12	3	-	1	1	Oakland, Calif	89	61	11	13	2	2	1
Toledo, Ohio	90	57	19	6	4	4	6	Pasadena, Calif	31	20	7	2	-	2	4
Youngstown, Ohio	51	36	12	3	-	-	-	Portland, Oreg	140	97	23	11	7	2	9
								Sacramento, Calif	130	87	22	8	5	8	9
WN CENTRAL	695	474	135	43	17	26	30	San Diego, Calif	169	107	32	16	6	8	16
Des Moines, Iowa	75	52	18	4	-	1	2	San Francisco, Calif	149	93	32	21	1	2	4
Duluth, Minn	32	24	6	1	-	1	1	San Jose, Calif	136	89	27	13	4	3	11
Kansas City, Kans	34	24	6	2	1	1	2	Seattle, Wash	147	102	29	12	1	3	2
Kansas City, Mo	100	67	24	4	3	2	5	Spokane, Wash	54	37	11	2	1	3	4
Lincoln, Nebr	25	18	7	-	-	-	4	Tacoma, Wash	38	29	6	1	-	2	2
Minneapolis, Minn	83	56	14	10	2	1	6								
Omaha, Nebr	78	62	8	1	2	5	3								
St Louis, Mo	146	94	26	14	5	7	2								
St Paul, Minn	58	42	7	3	2	4	-								
Wichita, Kans	64	35	19	4	2	4	5								
TOTAL	12,438	7,909	2,750	1,019	351	402	590								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

‡ Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Arboviral Infections — Continued

Health; KL Quickenden, PhD, JK Gedrose, State Epidemiologist, Montana State Dept of Health and Environmental Sciences; PA Stoesz, MD, State Epidemiologist, Nebraska State Dept of Health; W Crans, PhD, New Jersey Agricultural Experiment Station, New Brunswick, NJ; WE Parkin, DVM, State Epidemiologist, New Jersey State Dept of Health; P Hayes, HF Hull, MD, State Epidemiologist, New Mexico Health and Environment Dept; D White, PhD, M Grayson, PhD, R Deibel, MD, DL Morse, MD, State Epidemiologist, Bureau of Communicable Disease Control, Center for Laboratories and Research, New York State Dept of Health; N Newton, PhD, Vector Control Br, Environmental Health Section, Div of Health Svcs, F Crout, PhD, JN McCormick, MD, State Epidemiologist, North Carolina Div of Health Svcs; K Tardif, JL Pearson, DrPH, State Epidemiologist, North Dakota State Dept of Health; E Peterson, M Parsons, MS, TJ Halpin, MD, State Epidemiologist, Vector-Borne Disease Unit, Ohio Dept of Health; EJ Witte, VMD, State Epidemiologist, Pennsylvania State Dept of Health; J Cookman, S Morin, Dept of Environmental Management, RA Keenlyside, MBBS, State Epidemiologist, Rhode Island Dept of Health; KA Senger, State Epidemiologist, South Dakota State Dept of Health; JG Hamm, JR Oates, SJ Jones, WP Kelly, Memphis-Shelby County Health Dept, RH Hutcheson, Jr, MD, State Epidemiologist, Tennessee State Dept of Health and Environment; D Sprenger, PhD, Harris County Mosquito Control District, Houston, TX; B Elliot, PhD, RL Johns, PhD, C Reed, MPH, CE Alexander, MD, State Epidemiologist, Texas Dept of Health; BT Haslam, CR Nichols, MPA, State Epidemiologist, Utah Dept of Health; S Jenkins, MD, M Cader, MD, GR Miller, Jr, MD, State Epidemiologist, Virginia State Dept of Health; JM Kobayashi, MD, State Epidemiologist, Washington Dept of Social and Health Svcs; W Schell, JP Davis, MD, State Epidemiologist, Wisconsin State Dept of Health and Social Svcs; Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

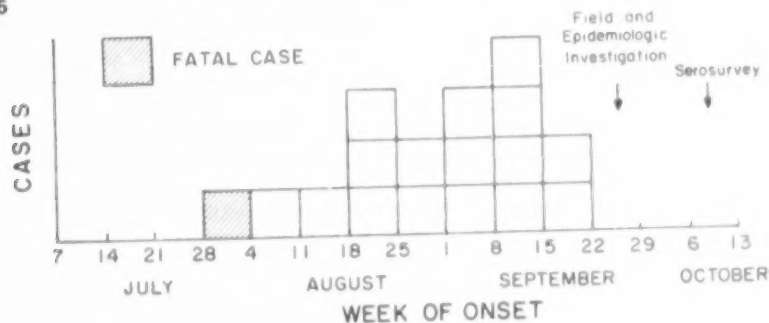
Editorial Note: Arboviral infections remain important in the differential diagnosis of CNS infections occurring in the summer and early fall. SLE, the most important cause of epidemic viral encephalitis in the United States, led to 1,815 reported cases in a nationwide outbreak in 1975 (Table 1) (1). More recently, regional outbreaks occurred in Florida (1977) (2), Houston, Texas (1980) (3), and southern California (1984) (4,5).

During the last decade, western equine encephalitis has been sporadic in midwestern and western states. However, extensive outbreaks occurred in the past, leading to over 3,400 cases in 1941 (6). As recently as 1975, 133 cases were reported in an outbreak in the North Red River Valley (7,8). Eastern equine encephalitis is a disease of low frequency (Table 1), occurring principally in Atlantic and Gulf Coast states; however, it is associated with significant morbidity and mortality (50%). In the United States, nearly all reported cases of CNS infections from California serogroup viruses are caused by LaCrosse virus. LaCrosse encephalitis is endemic in the upper midwest, affecting principally children. In these states, the incidence of LaCrosse encephalitis is similar to that of Reye syndrome, another important CNS disorder of children (9).

References

1. Monath TP. Epidemiology. In: Monath TP, ed. St. Louis encephalitis. Washington, D.C. American Public Health Association 1980;239-312.
2. Nelson DB, Kappus KD, Janowski HT, Buff E, Wellings FM, Schneider NJ. St. Louis encephalitis—

FIGURE 3. St. Louis encephalitis cases, by week of onset — Mesa County, Colorado, 1985



Arboviral Infections — Continued

- Florida 1977. Patterns of a widespread outbreak. *Am J Trop Med Hyg* 1983;32:412-6.
3. Reed C. Unpublished report.
 4. CDC. St. Louis encephalitis — California. *MMWR* 1984;33:649-51.
 5. CDC. Arboviral infections of the central nervous system — United States, 1984. *MMWR* 1985;34:283-6, 291-4.
 6. Leake JP. Epidemic of infectious encephalitis. *Public Health Reports* 1941;56:1902-5.
 7. Leech RW, Harris JC, Johnson RM, et al. 1975 encephalitis epidemic in North Dakota and western Minnesota. An epidemiologic, clinical and neuropathologic study. *Minn Med* 1983;64:545-8.
 8. Potter ME, Currier RV, Pearson JC, et al. Western equine encephalomyelitis in horses in the Northern Red River Valley. *J Am Vet Med Assoc* 1977;170:1396-9.
 9. CDC. Reye syndrome — United States, 1985. *MMWR* 1986;35:66-8, 73-4.

Chronic Fatigue Possibly Related to Epstein-Barr Virus — Nevada

From November 1984 through August 1985, approximately 90 patients evaluated for persistent fatigue were diagnosed as having chronic Epstein-Barr virus (CEBV) disease by a two-physician community internal medicine practice near Lake Tahoe, Nevada. The diagnoses were made by detecting antibody to the diffuse (EA-D) or the restricted (EA-R) components of early antigen of EBV, as suggested by two recent studies (1,2).

Because of controversy about whether CEBV disease exists, two serologic studies were conducted to evaluate whether a syndrome of chronic fatigue could be statistically associated with a specific pattern of antibody titers against EBV. Fifteen "case" patients, felt to be the most likely to have CEBV, were identified by interviewing 134 of the 139 patients tested for EBV serology in the internal medicine practice between January 1, and August 20, 1985. By definition, these patients had persistent or relapsing unexplained fatigue for at least 2 months, which forced them to stop usual daily activities for at least 2 weeks. Other less universal symptoms included intermittent low-grade fever, sore throat, myalgias, arthralgias, and headaches. All 15 patients were white; 13 were female. The median age was 40 years (range 13-52 years).

In the first serologic study, the 15 patients were compared with 118 of the 119 patients who had serologic testing for EBV (the serologic test results on one patient were not available). All 118 of these patients were white; 79 (66.9%) were female. The median age was 36 years (range 10-71 years). The case patients were more likely to have reciprocal EA-D titers of 160 or higher (45.5%, compared with 11.6%; $p = 0.014$) and EBV viral capsid antigen IgG (VCA-IgG) 160 or greater (80.0%, compared with 51.7%; $p = 0.033$) in the first serum tested. No evidence of acute EBV infection, manifested by positive IgM titers to VCA, was detected in either the cases or the others tested.

Detailed information on physical findings was obtained for all 15 case patients and from 11 of 18 other patients whose duration and severity of illness met the clinical case criteria but who, on review of their medical records, had other possible etiologies. Palpable splenomegaly was noted at some time during the illnesses of 13 of the 15 case patients and two of the 11 other patients ($p = 0.0002$).

In the second serologic study, blood specimens for EBV serologic testing were collected in October 1985 from the 15 case patients and from 30 age-, sex-, and race-matched controls. The controls consisted of patients and office workers who had no complaints of fatigue and had not previously undergone EBV serologic testing. The sera were tested simultaneously by the commercial reference laboratory used by the two physicians, by the EBV laboratory at CDC, and by a laboratory at Georgetown University in Washington, D.C. Case patients tended to have higher titers of VCA-IgG and of anti-EA than controls, but the specific test results and the tests in which the differences were significant varied considerably among the laboratories.

IgG antibody titers to herpes simplex virus (HSV) types 1 and 2 and cytomegalovirus (CMV) were also measured. Case patients had significantly higher CMV titers than controls, both by

Epstein-Barr Virus — Continued

indirect hemagglutination (reciprocal geometric mean titer [GMT] 292, compared with 31, $p = 0.046$) and by enzyme immunoassay (GMT 276, compared with 74, $p = 0.04$). Case patients also tended to have higher titers to HSV-1 (GMT 154, compared with 82) and to HSV-2 (GMT 140, compared with 34).

To help evaluate the reproducibility of the EBV serologic test results within a single laboratory, 19 sera, obtained earlier from 12 of the case patients and subsequently frozen, were retested in the same laboratory. Fourfold or greater variations between the initial and repeated titers were detected in 17.6% of the samples tested for anti-EA-D, 26.3% tested for VCA-IgG and 33.3% tested for anti-EA-R. All sera with fourfold or greater changes in anti-EA-D or VCA-IgG had a decrease in titer with the repeat testing, and all those with changes in anti-EA-R had increased titers.

Reported by D Peterson, MD, P Cheney, MD, Incline Village, M Ford, MPH, B Hunt, Washoe County District Health Dept, G Reynolds, Acting State Epidemiologist, Nevada Div of Health; Viral Exanthems and Herpesvirus Br, Epidemiology Office, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: In January 1985, two publications reported the association of a chronic, mononucleosis-like illness with evidence of persistent active Epstein-Barr virus activity among young, previously healthy adults (1,2). These patients had no other discernible cause for their illnesses, and many demonstrated an apparently unusual pattern of anti-EBV antibodies when compared with controls. However, several questions have been raised about these studies, including whether CEBV actually exists (3-5).

In the Nevada investigation, the 15 case patients were more likely to have abnormal EBV serologic markers than other patients, and, in addition to increased fatigue, were more likely to have palpable splenomegaly. These findings suggest that, as a group, these patients have an abnormality, or abnormalities, associated in some way with high antibody titers to EBV and CMV.

The study highlights several problems associated with the diagnosis of CEBV. First, the clinical syndrome is comprised of a wide range of nonspecific symptoms, and is inadequate for diagnosing CEBV without a confirmatory laboratory test.

Second, "elevated" anti-EBV serologic titers do not prove that a chronic illness in an individual is due to EBV. There is a great deal of overlap in the antibody titers of case patients and the general population, indicating that "normal" titers can vary substantially. In a recently published study, several asymptomatic persons followed for up to 8 years after recovery from acute infectious mononucleosis maintained anti-EA titers well into the range considered to indicate CEBV (6).

Third, the reproducibility of the serologic tests for EBV is poor, both within and between laboratories. The currently available indirect immunofluorescence technique for EBV serologic tests necessitates a subjective measurement of the fluorescence produced and is subject to variability between cell lots and between individual technicians. Comparability of titers can only be confirmed by testing specimens in parallel.

Currently available data neither prove nor disprove the hypothesis that EBV activity is responsible for chronic illness, but it is clear that the diagnosis of CEBV using current clinical and laboratory criteria in an individual patient is unreliable. Further examinations of immune function in these patients, as well as studies for other possible etiologies, are needed to define this syndrome and provide a framework for epidemiologic and therapeutic studies.

In the meantime, CEBV should be a diagnosis of exclusion. Physicians evaluating patients thought to have CEBV should continue to search for the more definable, and possibly treatable, conditions that may be responsible for their symptoms, such as endocrine and autoimmune diseases; malignancies; chronic heart, liver, kidney, and pulmonary disease; anxiety and depression; and chronic infectious diseases, such as CMV and tuberculosis.

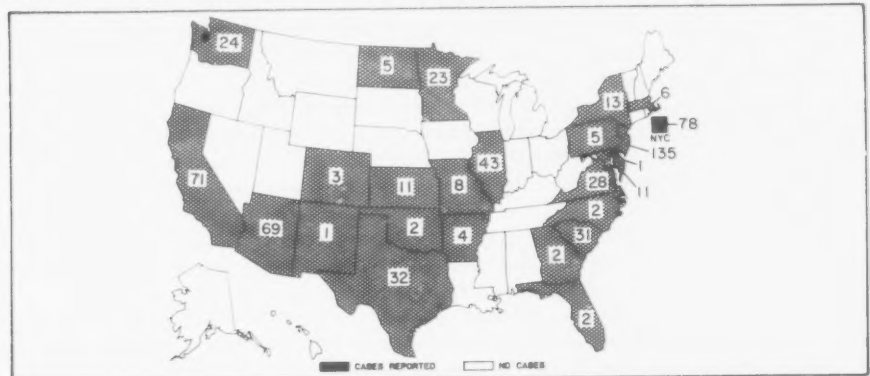
The patients reported here are only a portion of the cases reported to CDC with chronic,

Epstein-Barr Virus — Continued

often severe, debilitating disease diagnosed as CEBV. Further etiologic studies are indicated, including known viruses such as EBV, CMV, and adenoviruses, in addition to viruses which have not yet been identified. Once the syndrome is better defined, epidemiologic and therapeutic studies can be initiated.

References

1. Jones JF, Ray CG, Minnich LL, Hicks MJ, Kibler R, Lucas DO. Evidence for active Epstein-Barr virus infection in patients with persistent, unexplained illnesses: elevated anti-early antigen antibodies. *Ann Intern Med* 1985;102:1-7.
2. Straus SE, Tosato G, Armstrong G, et al. Persisting illness and fatigue in adults with evidence of Epstein-Barr virus infection. *Ann Intern Med* 1985;102:7-16.
3. Armstrong CW, Wetterhall SF. Epstein-Barr virus and unexplained illness [Letter]. *Ann Intern Med* 1985;102:722.
4. Jones SR. Epstein-Barr virus and unexplained illness [Letter]. *Ann Intern Med* 1985;102:723.
5. Merlin TL. Chronic mononucleosis: pitfalls in the laboratory diagnosis. *Hum Pathol* 1986;17:2-8.
6. Horwitz CA, Henle W, Henle G, Rudnick H, Latts E. Long-term serological follow-up of patients for Epstein-Barr virus after recovery from infectious mononucleosis. *J Infect Dis* 1985;151:1150-3.

FIGURE 1. Reported measles cases — United States, weeks 17-20, 1986

U.S. Government Printing Office: 1986-746-149/40005 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 *
NEWARK PUBLIC LIBR *
5 WASHINGTON ST *
NEWARK NJ 07101 *
*



35/22

CENTERS FOR DISEASE CONTROL

June 6, 1986 / Vol. 35 / No. 22

MMWR

- 353 Premature Mortality Due to Unintentional Injuries — United States, 1983
 357 Premature Mortality Due to Suicide and Homicide — United States, 1983
 366 Measles — United States, 1985

NEWARK PUBLIC LIBRARY

MORBIDITY AND MORTALITY WEEKLY REPORT

JUL 9 1986

*Perspectives in Disease Prevention and Health Promotion*U.S. GOVT. PUBS.
DEPOSITORY 378

Premature Mortality Due to Unintentional Injuries — United States, 1983

As life expectancy has increased in the United States, the leading causes of death have shifted to those diseases occurring late in life, such as heart disease, cancer, and stroke. Mortality rates have long been used to measure the magnitude of these diseases and to determine resource allocation in public health. However, this traditional measure of mortality does not provide the information needed to compare the amount of premature mortality by cause of death. In 1950, an index was proposed that expressed deaths in terms of years of life lost (YLL) to complement conventional death rates (1). However, the YLL index was little used during the 1950s and 1960s. A 1965 study noted that injuries caused a significant loss of years of life and that the allocation of health resources must consider not only the number of deaths by cause but also by age (2). During the 1970s and early 1980s, the YLL index became an accepted tool for state and local health planners (3). In 1982, CDC began reporting years of potential life lost before age 65 years (YPLL) in Table V of the *MMWR*. The YPLL index draws attention to potentially preventable mortality occurring early in life.

Unintentional injuries are the leading cause of YPLL. In 1984, they accounted for 2,308,000 YPLL, or about 19.6% of all YPLL (see Table V, page 365). Overall, unintentional injuries (E800-E949)* accounted for 2,277,000 YPLL in 1983, or about 19.4% of all YPLL. This report focuses on the 10 leading causes of YPLL due to unintentional injury for 1983, the last year for which complete data are available.

For this report, age- and cause-specific mortality data obtained from the National Center for Health Statistics (NCHS) were used to determine the number of deaths and to calculate the YPLL for each cause of unintentional injury death in the United States during 1983. Population estimates from the U.S. Bureau of the Census were used to calculate YPLL rates.

Among unintentional injuries, motor vehicle traffic crashes (E810-E819) are the leading cause of both YPLL and deaths (Figure 1). Among all other causes of death, motor vehicle traffic crashes rank only below malignant neoplasms and diseases of the heart for YPLL. The remaining 10 leading causes of YPLL from unintentional injuries, in order, are: drownings (E910),† fire and flames (E890-E899), poisonings (E850-E869), falls (E880-E888), firearms

*Based on The International Classification of Diseases, 9th Revision, Supplementary Classification of External Cause of Injury.

†Includes those not related to water transport.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:



best copy available

Unintentional Injuries - Continued

(E922), choking on food or object (E911-E912), water transport (E830-E838), air transport (E840-E845), and motor vehicle nontraffic crashes (E820-E825).

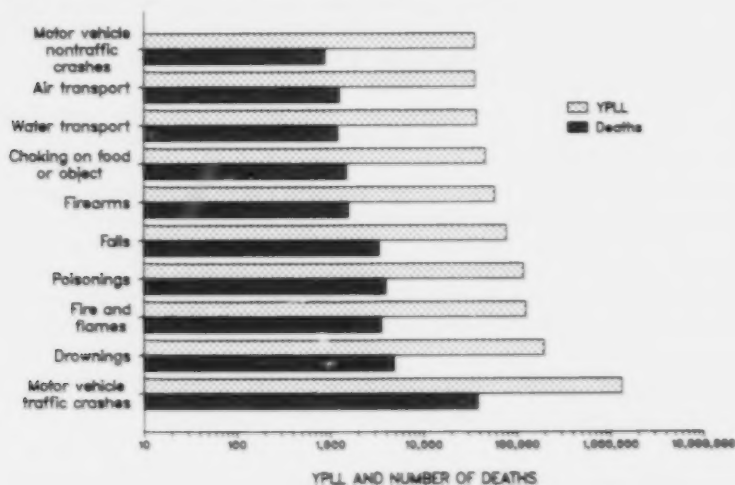
The rank order of the cause-specific numbers of deaths is the same as that of YPLL, except for fire and flames (fourth instead of third) and water transport (ninth instead of eighth).

Crude YPLL rates per 100,000 population and average YPLL per death (equivalent to 65 minus the average age at death) vary by each of the 10 leading causes of unintentional injury YPLL and by the sex of the victim (Table 1). The variation by sex in the YPLL rates is measured in the YPLL rate ratios. Males have higher YPLL rates than females for each of the listed unintentional injury causes of death. The highest YPLL rate ratios for males compared with females are for deaths due to water transport and deaths due to firearms, whereas the lowest are for deaths due to fire and flames and deaths due to choking on food or object. Except for motor vehicle traffic crashes, poisonings, and falls, the average YPLL per death is higher for females than males. The highest average YPLL per death is for that associated with motor vehicle nontraffic crashes for females, and the lowest is for that associated with falls for females.

Both YPLL and mortality rates highlight the importance of injuries as a health problem among children. Annually, about 10,000 children aged 1-14 years die from injuries (4). Injuries account for more deaths among children than any disease. The six leading causes of unintentional injury death among children are: motor vehicles, drownings, fire and flames, choking on food or object, firearms, and falls (5). About 40% of motor vehicle deaths among children involved the child as a pedestrian (4). Considered as a separate cause of deaths among children, pedestrian death is the third leading cause of unintentional injury death after deaths among motor vehicle occupants and deaths due to drowning.

Reported by Div of Injury Epidemiology and Control, Center for Environmental Health, CDC.

FIGURE 1. Years of potential life lost (YPLL) and number of deaths for the 10 leading causes of unintentional injury YPLL - United States, 1983



Unintentional Injuries — Continued

Editorial Note: Injury exacts an enormous toll in the United States, causing more than 140,000 deaths and over 3.5 million years of potential life lost per year (see Table V, page 365). Intentional injuries result from interpersonal or self-inflicted violence and include homicide, assaults, suicide and suicide attempts, child abuse, and rape. Unintentional injuries include those resulting from motor vehicle collisions, falls, fires, poisonings, and drownings.

TABLE 1. Years of potential life lost (YPLL) rates per 100,000 population, YPLL rate ratios, and average YPLL per death, by the 10 leading causes of unintentional injury YPLL and by sex — United States, 1983.

Cause of death	YPLL rate	(YPLL rate ratio*)	Average YPLL per death
Motor vehicle traffic crashes			
Male	953.1		35.1
Female	334.3	(2.9)	34.6
Drownings†			
Male	156.7		39.9
Female	33.7	(4.7)	43.9
Fire and flames			
Male	73.9		33.7
Female	47.8	(1.5)	38.4
Poisonings			
Male	81.7		30.4
Female	33.4	(2.4)	29.1
Falls			
Male	59.5		23.6
Female	16.1	(3.7)	21.6
Firearms			
Male	49.0		36.8
Female	7.8	(6.3)	38.2
Choking on food or object			
Male	26.8		27.7
Female	14.5	(1.8)	29.5
Air transport			
Male	29.3		28.0
Female	5.9	(5.0)	31.5
Water transport			
Male	32.7		30.6
Female	3.8	(8.6)	34.5
Motor vehicle nontraffic crashes			
Male	26.6		39.1
Female	8.3	(3.2)	45.8

*For males compared with females within each cause-specific category.

†Includes those not related to water transport.

Unintentional Injuries — Continued

Injuries occur during work and include unintentional trauma (e.g., motor vehicle-related injuries, falls, and electrocutions) and intentional injuries. One in every three Americans suffers an injury each year, and 80,000 persons suffer permanent disabling injuries from brain or spinal cord trauma (6). Direct and indirect costs of injury are estimated at \$75-\$100 billion per year.

The use of YPLL has become a mainstay in the evaluation of the impact of injuries on public health. Although YPLL is a valuable index in analyzing various causes of injury mortality, this report also includes YPLL rates, YPLL rate ratios, and average YPLL per death. The use of YPLL rates allows comparison of YLL between different populations. For each of the 10 leading causes of unintentional injury YPLL, males have a higher rate of YPLL than females. These higher rates in males may reflect a greater involvement in hazardous activities, in use of alcohol (4), and in risk-taking behavior. However, the use of average YPLL per death shows that, among those who die from unintentional injuries, females, on average, are dying at a younger age than males for each of the 10 leading causes of unintentional injury YPLL, except for motor vehicle traffic crashes, poisonings, and falls. Persons are dying from drownings, motor vehicle nontraffic crashes, and firearms at a younger age, on average, than from the other leading causes of unintentional injury YPLL.

When injuries are studied epidemiologically, many opportunities for prevention may become evident. What is known about host, agent, and environment can be translated into programmatically sound interventions that reduce injury morbidity and mortality. A project of the Carter Center of Emory University entitled, "Closing the Gap," examined the impact of the injury problem and its potential reduction by applying existing scientific and technical knowledge (7). The Carter Center estimates that, by applying broad-based mixed strategies, motor vehicle-related fatalities and injuries could be reduced by about 75% (8). About 23,000 deaths per year result from unintentional injuries that occur in the home (8). The Carter Center estimates that targeted interventions could reduce home injuries by about 50% (8). Appropriately targeted interventions also could reduce by about 25% all fatal and serious injuries in which alcohol is an important factor (8).

Past and current research and surveillance efforts have identified many prevention strategies to be applied and evaluated, and a growing number of state and local public health agencies and other organizations are now in the process of meeting this challenge. State agencies, in particular, can assume several responsibilities in injury prevention, including: (1) coordinating their activities with local agencies, academic institutions, and private entities; (2) conducting injury surveillance; (3) developing intervention plans with other involved groups; (4) providing information to the public; and (5) providing technical advice on legislative proposals needed to support injury-control efforts.

References

1. Haenszel W. A standardized rate for mortality defined in units of lost years of life. *Am J Public Health* 1950;40:17-26.
2. Stickie G. What priority, human life? *Am J Public Health* 1965;55:1692-8.
3. Perloff JD, LeBailly SA, Kletke PR, Budetti PP, Connelly JP. Premature death in the United States: years of life lost and health priorities. *J Pub Health Policy* 1984;5:167-184.
4. Baker SP, O'Neill B, Karpf RS. The injury fact book. Lexington, Massachusetts: Lexington Books, 1984:20.
5. National Safety Council. Accident facts, 1985. Chicago: National Safety Council, 1985.
6. Institute of Medicine and National Research Council. Injury in America. Washington, D.C.: National Academy Press, 1985.
7. Foege WH, Amier RW, White CC. Closing the gap. Report of the Carter Center health policy consultation. *JAMA* 1985;254:1355-8.
8. Smith GS. Measuring the gap for unintentional injuries: the Carter Center health policy project. *Public Health Rep* 1985;100:565-8.

Premature Mortality Due to Suicide and Homicide — United States, 1983

In 1984, suicide and homicide together ranked as the fourth leading cause of years of potential life lost before age 65 (YPLL). They accounted for 1,247,000 YPLL or 10.6% of all YPLL (Table V, page 365). In this report, YPLL was calculated using data from the National Center for Health Statistics' detailed mortality computer tapes for 1983, the latest year for which tapes are available. Data were analyzed on YPLL attributable to suicide and homicide individually, by sex, race (white, black, other races), weapon or method of injury, and year. To compare differences in YPLL across time and among different race, sex, and age groups independent of changes and differences in population size, crude YPLL rates per 100,000 persons were calculated.

SUICIDE

Considered alone, suicide is the fifth leading cause of YPLL in the United States, accounting for 631,990 YPLL in 1983. Suicides among white males accounted for 70.6% of the total suicide-attributable YPLL (Table 2). White females accounted for another 19.7%. White males had the highest crude YPLL rate due to suicide in 1983 (458/100,000), followed by males of other races (369/100,000), black males (283/100,000), and white females (122/100,000).

Suicides committed with firearms accounted for 363,828 YPLL in 1983, comprising 57.6% of the total YPLL attributable to suicide. This proportion was higher for males (60.9%) than for females (45.4%). Among males, hanging accounted for the next highest proportion of total YPLL (17.2%), followed by poisoning by gas (8.7%) and poisoning by solids or liquids (6.7%). Among females, poisoning by solids or liquids comprised the next highest proportion of YPLL due to suicide (25.9%), followed by poisoning by gas (10.5%) and hanging (9.8%).

The crude YPLL rate attributable to suicide increased for both black and white males from 1968 to 1983 (Figure 2). For white males, the YPLL rate increased 52.7% from 300/100,000 in 1968 to 458/100,000 in 1983. For black males, the YPLL rate increased 65.5% from 171/100,000 to 283/100,000. The YPLL rates for white and black females did not change appreciably during this period.

TABLE 2. Years of potential life lost before age 65 years (YPLL) due to intentional injuries, by sex and race — United States, 1983

Sex and race	Suicide YPLL		Homicide YPLL	
	Total	Rate*	Total	Rate*
Males				
White	445,890 (70.6)	458.1	245,139 (40.2)	251.9
Black	37,524 (5.9)	282.6	212,985 (35.0)	1,603.9
Other	11,485 (1.8)	368.7	10,408 (1.7)	334.1
All	494,899 (78.3)	435.2	468,532 (76.9)	412.0
Females				
White	124,475 (19.7)	121.7	81,193 (13.3)	79.4
Black	9,085 (1.4)	61.4	55,186 (9.1)	373.1
Other	3,531 (0.6)	108.9	4,333 (0.7)	133.6
All	137,091 (21.7)	114.0	140,712 (23.1)	117.0
Total	631,990 (100.0)	270.1	609,244 (100.0)	260.3

*Per 100,000 persons.

*Suicide and Homicide — Continued***HOMICIDE**

Homicide accounted for 609,244 YPLL in 1983, making homicide alone the sixth leading cause of YPLL in the United States. Homicides among males accounted for more than three-quarters of the total YPLL due to homicide (Table 2); 40.2% of homicide-attributable YPLL was due to white males, and 35.0%, to black males. In 1983, the crude YPLL rate due to homicide was highest for black males (1,604/100,000), followed by black females (373/100,000), males of other races (334/100,000), and white males (252/100,000).

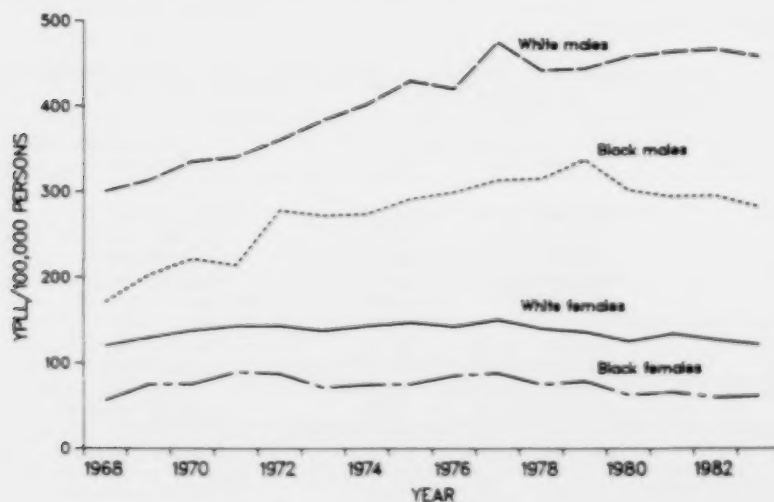
Firearm homicides accounted for 375,369 YPLL in 1983, or 61.6% of the total homicide-attributable YPLL. This proportion was higher for males (66.2%) than females (46.4%). Homicides committed with cutting and piercing instruments accounted for 21.6% of the total YPLL for males and 18.6% of the total YPLL for females.

From 1968 to 1983, the crude YPLL rate due to homicide increased by 24.4%, from 209/100,000 to 260/100,000. During this period, the crude YPLL rate was 6-11 times higher for black males than for white males and 5-7 times higher for black females than white females (Figure 3). From 1968 to 1983, the crude YPLL rate increased for white males and females by 60.5% and 43.6%, respectively, and decreased for black males and females by 8.7% and 4.6%, respectively.

Reported by Div of Injury Epidemiology and Control, Center for Environmental Health, CDC.

Editorial Note: The number of YPLL is a measure of public health impact and is dependent on population size. For this reason, YPLL alone is inadequate to compare premature mortality across different years or across subpopulations, such as blacks and whites. This consideration is important, for example, when comparing homicide-attributable YPLL among blacks with that among whites. While whites accounted for a greater proportion than blacks of the total homicide-attributable YPLL in 1983 (53.6%, compared with 44.0%), the crude YPLL rate was

FIGURE 2. Suicide-attributable years of potential life lost, by year, race, and sex — United States, 1968-1983



Suicide and Homicide — Continued

5.9 times higher for blacks than whites in that year. Moreover, although the crude suicide-attributable YPLL rate increased only 0.8% for white females from 1968 to 1983, the total number of suicide-attributable YPLL for white females increased 15.1% (from 108,099 to 124,475), mainly due to population increases.

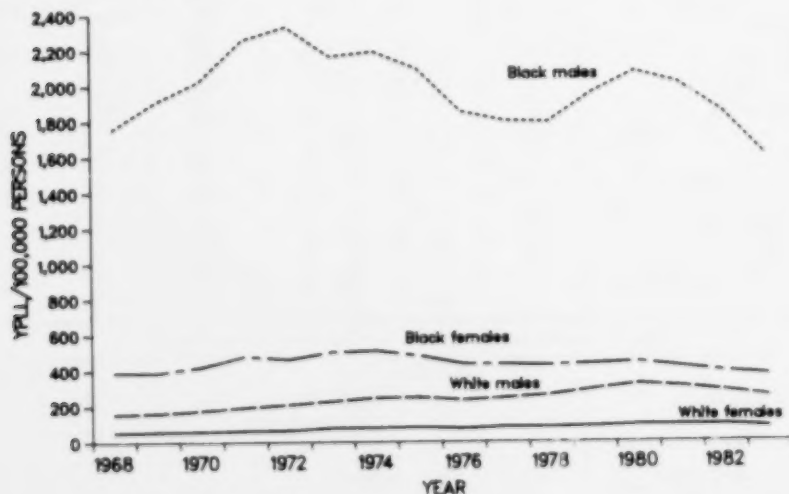
Relative to other important causes of premature death, intentional injuries take their heaviest toll among the young. Over two-thirds of YPLL due to both suicide and homicide is attributable to deaths among persons under 35 years of age. In contrast, almost two-thirds of YPLL due to heart disease is attributable to deaths among persons 45 years of age or older. This observation is underscored by the fact that the average YPLL per death for heart disease is 2.1 years, compared with 22.3 years for suicide and 30.6 years for homicide. Injury prevention is, therefore, an appropriate focus for programs designed to target young populations, such as maternal- and child-health programs.

Firearms have been previously noted to be the weapon used in the largest proportion of deaths due to suicide and homicide (1,2). These data clearly indicate that their role in intentional injury should be examined more closely.

For both homicide and suicide, persons of nonblack minority races were noted to be at intermediate risk between blacks and whites. However, this finding is difficult to interpret. Non-black minority races comprise a relatively small, heterogeneous population with varying risks of homicide and suicide. It has been reported that Native Americans are at higher risk of both homicide and suicide than whites, but that, in general, Asian/Pacific Islanders are not (3). Further research is needed to identify specific Native American populations at highest risk of death from intentional injuries and develop interventions appropriate for these high-risk groups.

Black males comprised only 7.0% of the total population in 1983 (4), but homicides

FIGURE 3. Homicide-attributable years of potential life lost by year, race, and sex — United States 1968-1983



Suicide and Homicide — Continued

among black males accounted for 35.0% of the total YPLL attributable to homicide in that year. Future research should clarify the role that various factors play in homicide deaths so that preventive interventions might be devised.

Although the overall suicide rate has not changed much since 1968, the crude suicide-attributable YPLL rate has increased considerably because of the changing age distribution of suicide victims. In the past, suicide rates were relatively low among the young and increased with increasing age. However, beginning in the early 1950s, suicide rates have gradually increased among young persons, particularly among young white males, while decreasing among older persons (5,6). In the past, many ideas about the causes of suicide and ways to prevent it were derived from concepts of suicide as a phenomenon primarily affecting older people. This marked increase in the rate of suicide among young people suggests a need to reexamine past assumptions.

YPLL due to suicide is probably substantially underestimated because suicides are thought to be underreported on death certificates (4,5). Reasons for underreporting include difficulties in establishing suicidal intent, certifier error or bias, and the lack of awareness of a suicide because a body was never recovered (e.g., drowning after jumping off a bridge).

(Continued on page 365)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	22nd Week Ending			Cumulative, 22nd Week Ending		
	May 31, 1986	June 1, 1985	Median 1981-1985	May 31, 1986	June 1, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	236	124	N	5,288	2,932	N
Asplenic meningitis	97	84	84	1,840	1,577	1,672
Encephalitis: Primary (arthropod-borne & unsp.)	13	21	15	315	381	380
Post-infectious	2	5	1	40	59	43
Gonorrhea: Civilian	12,938	12,435	13,867	340,912	329,991	371,185
Military	227	221	360	8,638	8,049	10,172
Hepatitis: Type A	295	334	334	9,174	8,921	9,355
Type B	442	489	485	10,615	10,427	9,741
Non A, Non B	57	73	N	1,435	1,749	N
Unspecified	70	92	123	2,071	2,281	3,056
Legionellosis	13	7	N	223	255	N
Leprosy	5	4	4	115	160	99
Malaria	12	18	22	309	314	320
Measles: Total*	171	69	58	2,929	1,331	1,331
Indigenous	136	63	N	2,777	1,082	N
Imported	35	6	N	152	249	N
Meningococcal infections: Total	37	36	52	1,311	1,261	1,470
Civilian	37	36	52	1,309	1,256	1,467
Military	-	-	-	2	5	6
Mumps	161	51	66	1,757	1,603	1,840
Pertussis	29	49	27	1,037	654	654
Rubella (German measles)	8	38	38	233	240	511
Syphilis (Primary & Secondary): Civilian	394	430	458	10,590	10,432	12,574
Military	1	3	3	79	79	157
Toxic Shock syndrome	5	9	N	154	167	N
Tuberculosis	378	292	370	8,536	8,337	9,274
Tularemia	5	9	5	25	54	65
Typhoid fever	6	16	6	104	125	141
Typhus fever, tick-borne (RMSF)	20	40	41	111	129	139
Rabies, animal	85	127	127	2,273	2,146	2,601

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	17
Botulism: Foodborne	4	Plague	-
Infant	22	Polioomyelitis, Paralytic	-
Other	-	Psittacosis (Minn 2, Del 1, Mont 1)	30
Brucellosis (Mo 2, S Dak 1, Tex 1)	27	Rabies, human	-
Cholera	-	Tetanus	17
Congenital rubella syndrome	2	Trichinosis	9
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine)	10
Diphtheria	-		

*Nineteen of the 171 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
May 31, 1986 and June 1, 1985 (22nd Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA/NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	5,288	97	315	40	340,912	329,991	295	442	57	70	13	115
NEW ENGLAND	218	1	9	2	7,756	10,039	5	34	2	5	1	3
Maine	11	-	-	-	399	397	-	3	-	-	-	-
Mass	6	-	2	-	203	210	-	-	-	-	-	-
N.H.	2	-	2	1	108	110	-	1	-	-	-	-
Rh.I.	112	-	2	-	3,398	3,762	4	22	1	4	-	3
Vt.	13	-	-	-	755	752	-	-	-	-	-	-
Conn.	72	1	3	1	2,893	4,808	1	8	1	1	-	-
MID ATLANTIC	2,071	10	50	1	57,848	46,529	12	31	3	13	-	9
Del.	199	2	19	-	6,576	6,705	4	5	2	1	-	1
Md.	1,405	1	11	-	33,647	21,062	-	-	-	11	-	7
Pa.	321	4	6	-	7,516	8,528	6	11	1	1	-	-
D.C.	146	3	14	1	10,109	10,234	2	15	-	-	-	1
S. CENTRAL	308	10	68	6	44,036	46,561	19	43	3	7	1	4
Ark.	65	3	18	2	10,894	11,839	9	16	-	2	-	-
La.	29	-	7	2	4,911	4,173	-	1	1	2	-	-
Miss.	141	3	18	1	11,895	13,283	5	20	1	2	1	1
Okla.	56	4	23	1	14,208	13,244	5	6	-	-	-	-
Tex.	17	-	2	-	2,128	4,022	-	-	-	-	-	-
W. CENTRAL	88	5	10	7	15,154	16,589	4	18	3	-	2	2
Ill.	42	1	6	-	2,168	2,441	1	6	-	-	-	1
Ind.	7	2	4	-	1,542	1,755	-	2	1	-	1	-
Iowa	19	1	-	-	7,809	7,791	-	9	2	-	-	-
Mo.	2	-	-	-	128	120	-	-	-	-	-	-
Nebr.	1	1	-	-	311	239	-	-	-	-	-	-
Okla.	5	-	-	-	1,051	1,492	1	-	-	-	-	-
S.D.	12	-	-	7	2,145	2,691	2	1	-	-	-	1
ATLANTIC	718	19	46	14	83,216	71,841	24	74	10	5	5	1
Ala.	12	1	3	-	1,419	1,604	1	-	-	-	-	-
Ga.	78	2	12	-	10,324	11,530	-	8	2	-	-	-
N.C.	103	-	-	-	6,901	5,925	-	1	-	-	-	-
S.C.	74	2	16	1	7,320	7,422	1	3	-	-	-	1
Va.	2	-	6	-	985	996	-	-	-	-	-	-
W.Va.	31	3	8	1	14,510	13,739	-	10	-	-	-	-
D.C.	17	-	-	-	7,725	8,884	-	5	-	-	3	-
Maryl.	87	2	-	-	9,359	-	-	19	-	-	-	-
Del.	312	9	1	12	24,673	21,741	21	28	8	5	2	-
S. CENTRAL	60	9	21	2	26,844	28,512	4	31	2	1	-	1
Ky.	13	3	9	1	3,356	3,170	1	7	-	-	-	-
Tenn.	31	1	2	1	11,330	11,373	2	2	1	1	-	-
Miss.	10	3	9	-	8,124	9,246	-	12	1	-	-	1
Ark.	6	2	1	-	6,034	4,723	1	10	-	-	-	-
W. CENTRAL	364	19	33	3	43,380	45,990	39	44	9	16	1	7
Ark.	15	-	-	-	3,851	4,357	3	4	1	-	-	-
La.	62	1	2	-	7,789	9,444	3	4	1	-	1	-
Miss.	17	2	8	-	5,065	4,769	1	1	1	-	-	-
Tex.	270	16	23	3	26,675	27,420	32	35	6	16	-	7
MOUNTAIN	150	5	14	1	10,560	10,728	36	36	4	7	-	7
Mont.	3	-	-	1	283	306	-	2	-	1	-	-
Idaho	1	-	-	-	346	356	-	-	-	-	-	-
N.M.	4	-	2	-	246	271	-	1	-	-	-	-
Wyo.	81	-	2	-	2,761	3,321	-	4	2	4	-	3
Colo.	6	-	1	-	1,076	1,254	6	10	-	-	-	-
Utah	36	3	7	-	3,383	3,080	21	11	2	1	-	2
Nev.	8	-	1	-	454	456	-	2	-	-	-	-
Ariz.	11	2	1	-	1,981	1,704	9	6	-	1	-	2
PACIFIC	1,315	19	64	4	50,128	53,202	152	131	21	16	3	81
Wash.	49	-	5	-	3,844	3,772	7	16	1	3	1	9
Oreg.	29	-	-	-	2,007	2,658	23	7	2	-	-	-
Calif.	1,215	13	57	4	42,417	44,752	119	105	18	13	2	60
Alaska	9	1	2	-	1,251	1,237	3	2	-	-	-	-
Hawaii	13	5	-	-	599	783	-	1	-	-	-	12
Guam	-	-	-	-	50	81	-	-	-	-	1	1
P.R.	56	-	3	-	969	1,586	3	8	-	6	-	7
V.I.	2	-	-	-	93	203	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	113	421	3	-	-	-	-	18
Amer. Samoa	-	U	-	-	14	-	U	U	U	U	U	1

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending May 31, 1986 and June 1, 1986 (22nd Week)

Reporting Area	Measles (Rubeola)	Measles (Rubeola)			Mumps	Pertussis	Rubella								
		Indigenous	Imported *	Total			1986	Cum 1986	Cum 1985						
										1986	Cum 1986	Cum 1985			
UNITED STATES	309	136	2,777	36	182	1,331	1,311	161	1,757	29	1,037	654	8	233	240
NEW ENGLAND	18	7	23	4	4	100	100	1	36	1	82	31	-	4	8
Maine	-	-	-	-	-	-	21	-	-	-	2	2	-	-	-
NH	-	-	-	-	-	-	5	-	10	-	15	16	-	1	2
VT	1	-	-	-	-	-	14	-	-	1	3	2	-	-	-
Mass	10	5	20	3	3	96	19	-	-	-	18	4	-	-	6
RI	2	1	2	-	-	-	14	-	6	-	1	4	-	2	-
Conn	5	1	1	1	1	4	27	1	19	-	15	3	-	1	-
MID ATLANTIC	34	82	1,071	7	18	122	204	7	94	-	98	68	1	27	68
Update N.Y.	8	8	15	7	17	86	66	-	34	-	66	38	1	19	8
N.Y. City	11	39	219	-	1	35	39	-	5	3	3	3	-	15	40
N.J.	3	-	821	-	-	8	27	4	24	1	7	2	-	3	8
Pa	12	5	16	-	-	23	72	3	31	-	22	22	-	-	12
E N CENTRAL	12	22	404	8	12	389	178	119	985	2	163	91	1	11	19
Ohio	3	-	-	8	8	43	73	3	85	1	60	14	-	-	-
Ind	-	-	-	-	-	1	17	1	19	-	19	11	-	-	-
W	4	14	254	-	1	221	43	106	607	-	19	13	1	7	6
Mich	5	8	8	-	-	50	43	9	148	-	10	13	-	3	13
Wis	-	-	142	-	3	54	2	-	126	1	7	40	-	1	1
W N CENTRAL	7	24	181	2	18	8	69	1	64	8	5	54	-	8	16
Minn	3	5	27	-	4	4	14	-	1	4	25	11	-	-	2
Iowa	1	17	17	-	1	-	9	1	13	-	9	3	-	-	-
Mo	2	2	7	2	6	3	24	-	12	-	4	13	-	1	5
N Dak	-	-	10	-	1	1	-	-	2	-	2	6	-	-	2
S Dak	-	-	-	-	-	-	3	-	1	4	7	1	-	-	-
Nebr	1	-	-	-	-	-	7	-	-	-	-	-	-	-	-
Kans	-	-	80	-	4	1	12	-	35	-	10	17	-	7	7
S ATLANTIC	41	1	330	3	33	184	264	2	104	8	405	160	1	8	25
Del	-	-	1	-	-	-	1	-	-	2	212	-	-	-	1
Md	7	1	19	1	8	20	35	-	6	-	62	67	-	-	-
D.C.	-	-	-	-	-	2	3	-	-	-	-	-	-	-	-
Va	8	-	14	1	20	17	49	1	18	2	18	3	-	-	1
W Va	-	-	2	-	24	3	3	-	30	-	5	-	-	-	9
N.C.	4	-	1	-	1	3	43	1	10	1	19	8	-	-	-
S.C.	2	-	274	-	-	24	-	11	5	-	5	-	-	-	2
Ga	4	-	7	-	1	8	40	-	10	1	70	51	-	-	-
Fla	15	-	12	1	3	80	66	-	19	2	17	31	1	8	11
E S CENTRAL	6	-	3	-	-	1	72	-	17	1	19	6	-	1	1
Ky	2	-	-	-	-	-	12	-	3	-	1	1	-	1	1
Tenn	-	-	1	-	-	-	30	-	12	-	5	1	-	-	-
Ark	2	-	-	-	-	-	22	-	1	1	13	2	-	-	-
Miss	2	-	2	-	-	1	8	-	1	-	-	2	-	-	-
W S CENTRAL	22	1	352	-	28	86	109	9	118	-	30	81	-	48	19
Ark	-	1	276	-	2	-	15	-	7	-	2	11	-	-	-
La	4	-	-	-	-	10	15	1	1	-	4	5	-	-	1
Okla	2	-	6	-	4	-	14	N	N	-	24	65	-	-	-
Tex	16	-	70	-	22	76	65	8	110	-	-	-	-	48	17
MOUNTAIN	9	11	204	6	16	378	82	11	176	3	104	32	-	5	4
Mont	-	-	-	6	6	7	136	-	5	-	6	3	-	-	-
Idaho	1	-	-	-	-	79	1	-	2	-	26	-	-	-	1
Wy	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Colo	2	-	2	-	4	6	2	9	1	8	3	27	10	-	-
N Mex	-	5	21	-	5	3	6	N	N	-	9	4	-	-	2
Ariz	3	6	181	-	-	154	14	10	149	-	24	9	-	1	1
Utah	2	-	-	-	-	-	7	-	9	-	11	6	-	1	-
Nev	1	-	-	-	-	-	6	-	3	-	-	-	-	3	-
PACIFIC	160	18	239	5	25	113	263	11	163	5	106	131	5	121	90
Wash	13	6	93	4	11	1	35	2	7	3	41	20	-	3	2
Oreg	12	-	1	1	3	3	20	N	N	-	6	17	-	-	-
Calif	135	12	167	-	10	97	198	9	143	2	53	87	5	116	49
Alaska	-	-	-	-	-	-	9	-	4	-	1	4	-	-	-
Hawaii	-	-	19	-	1	12	1	-	9	-	3	3	-	2	27
Guam	1	-	3	-	-	10	-	1	3	-	-	-	-	2	1
PR	3	-	18	-	-	46	3	-	16	-	5	2	-	58	19
V.I.	-	-	-	-	-	10	-	-	9	-	-	-	-	-	-
Pal. Trust Terr	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-
Amer Samoa	-	U	1	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable I International O Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending May 31, 1986 and June 1, 1985 (22nd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	10,590	10,432	5	8,536	8,337	29	104	111	2,273
NEW ENGLAND	209	235	-	280	283	-	4	1	3
Maine	13	7	-	25	19	-	-	-	-
NH	7	5	-	7	11	-	-	-	-
Vt	6	-	-	9	4	-	-	-	-
Mass	104	121	-	136	172	-	3	1	-
RI	13	7	-	19	21	-	-	-	1
Conn	66	95	-	85	86	-	1	-	2
MID ATLANTIC	1,565	1,431	-	1,716	1,514	-	10	1	182
Upstate N.Y.	73	108	-	263	250	-	1	1	29
N.Y. City	853	883	-	828	768	-	5	-	1
N.J.	291	307	-	335	170	-	3	-	6
Pa	348	133	-	300	326	-	1	-	148
E.N. CENTRAL	429	497	2	1,041	1,026	-	8	21	47
Ohio	60	61	1	180	193	-	1	21	5
Ind	50	38	-	119	126	-	-	-	9
Ill	231	267	-	469	449	-	1	-	15
Mich	62	109	1	221	201	-	5	-	7
Wis	26	24	-	52	57	-	1	-	11
W.N. CENTRAL	109	110	1	248	218	8	5	5	363
Minn	18	26	-	58	40	-	1	1	42
Iowa	5	14	-	22	33	1	-	-	77
Mo	58	48	-	127	95	7	4	1	40
N Dak	2	-	-	4	2	-	-	-	92
S Dak	1	4	-	10	12	-	-	-	66
Nebr	10	5	1	4	9	-	-	-	5
Kans	15	12	-	23	21	-	-	3	31
S ATLANTIC	2,947	2,583	-	1,653	1,728	4	14	35	550
Del	20	16	-	19	16	-	-	-	-
Md	193	171	-	126	157	1	4	5	306
D.C.	144	154	-	53	78	-	1	-	-
Va	181	135	-	149	145	1	3	7	67
W.Va	8	4	-	47	42	-	2	4	11
N.C.	209	280	-	219	208	1	2	8	3
S.C.	287	335	-	188	199	-	-	9	16
Ge	383	-	-	252	279	1	-	2	70
Fla	1,522	1,488	-	600	604	-	2	-	57
E.S. CENTRAL	721	912	-	756	754	3	1	15	131
Ky	31	33	-	194	157	2	-	1	38
Tenn	261	253	-	209	233	1	-	6	56
Ala	238	291	-	251	246	-	-	2	37
Miss	191	335	-	102	118	-	1	6	-
W.S. CENTRAL	2,225	2,609	-	1,035	906	11	6	28	358
Ark	109	126	-	128	101	8	-	1	83
La	371	443	-	186	147	1	-	-	7
Okla	65	78	-	97	115	2	1	22	29
Tex	1,680	1,962	-	624	543	-	5	5	239
MOUNTAIN	250	331	-	188	209	2	6	5	375
Mont	3	1	-	8	29	-	1	2	136
Idaho	5	3	-	5	11	-	-	-	-
Wyo	-	5	-	-	5	-	-	1	175
Colo	78	77	-	10	27	-	1	2	-
N. Mex	33	45	-	40	39	1	-	-	3
Ariz	96	179	-	92	86	-	2	-	61
Utah	4	3	-	18	5	1	2	-	-
Nev	31	18	-	15	8	-	-	-	-
PACIFIC	2,135	1,724	2	1,619	1,701	1	50	-	274
Wash	48	58	-	91	96	-	2	-	-
Oreg	43	37	-	59	58	-	-	-	-
Calif	2,025	1,595	2	1,339	1,415	-	45	-	266
Alaska	-	1	-	27	56	1	1	-	8
Hawaii	19	33	-	103	76	-	2	-	-
Guam	1	2	-	30	19	-	-	-	-
P.R.	347	363	-	124	138	-	2	-	19
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr	112	40	-	15	29	-	27	-	-
Amer Samoa	-	-	U	3	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
May 31, 1986 (22nd Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	609	428	120	28	11	22	44	S ATLANTIC	1,135	693	292	88	30	32	38
Boston, Mass.	129	72	41	6	3	7	15	Atlanta, Ga.	111	69	31	10	-	1	3
Bridgeport, Conn.	44	36	5	3	-	1	2	Baltimore, Md.	210	131	64	14	7	4	2
Cambridge, Mass.	19	16	3	-	-	-	2	Charlotte, N.C.	75	47	18	5	8	-	6
Fall River, Mass.	31	24	5	2	-	-	1	Jacksonville, Fla.	116	70	22	5	5	5	-
Hartford, Conn.	69	46	12	6	2	4	2	Miami, Fla.	109	65	30	9	2	3	4
Lowell, Mass.	36	24	11	-	1	-	-	Norfolk, Va.	53	28	14	7	2	2	4
Lynn, Mass.	16	12	3	-	1	-	-	Richmond, Va.	59	33	17	4	1	4	6
New Bedford, Mass.	22	19	3	-	-	-	1	Savannah, Ga.	47	31	11	3	1	1	3
New Haven, Conn.	39	22	9	3	1	4	1	St. Petersburg, Fla.	110	82	20	4	2	2	4
Providence, R.I.	73	53	10	3	1	6	5	Tampa, Fla.	61	36	13	9	2	1	1
Somerville, Mass.	13	9	2	2	-	-	2	Washington, D.C.	160	78	54	17	2	9	2
Springfield, Mass.	40	41	6	1	1	-	5	Wilmington, Del.	24	14	8	1	1	-	-
Waterbury, Conn.	23	18	2	2	1	-	2								
Worcester, Mass.	46	38	8	-	-	-	5								
MID ATLANTIC	2,381	1,541	485	229	65	60	110	E S CENTRAL	681	433	152	49	26	21	32
Albany, N.Y.	62	39	10	6	3	4	-	Birmingham, Ala.	87	45	25	8	-	4	4
Allentown, Pa.	21	18	2	1	-	-	-	Chattanooga, Tenn.	48	33	10	2	1	2	6
Buffalo, N.Y.	104	72	19	7	1	5	10	Knobsville, Tenn.	90	59	18	9	4	-	5
Camden, N.J.	48	32	12	1	1	2	2	Louisville, Ky.	130	90	26	8	2	4	7
Elizabeth, N.J.	30	21	5	2	1	1	-	Memphis, Tenn. §	176	112	39	12	5	6	6
Erie, Pa. †	25	19	3	2	-	1	1	Mobile, Ala.	25	20	4	-	1	-	-
Jersey City, N.J.	40	30	7	3	-	-	1	Montgomery, Ala.	31	19	8	1	1	2	-
N.Y. City, N.Y.	1,244	780	255	149	37	23	65	Nashville, Tenn.	94	55	22	9	7	1	4
Newark, N.J.	57	29	12	7	5	3	1	W S CENTRAL	1,196	744	244	108	65	35	42
Patterson, N.J. §	27	19	3	3	-	2	1	Austin, Tex.	41	33	4	2	2	-	4
Philadelphia, Pa.	298	189	84	25	9	11	12	Baton Rouge, La.	17	9	3	2	3	-	-
Pittsburgh, Pa. †	60	35	17	5	1	2	1	Corpus Christi, Tex.	35	25	6	2	-	2	1
Reading, Pa.	38	28	7	3	-	-	1	Dallas, Tex.	150	82	38	16	12	2	6
Rochester, N.Y.	100	71	20	5	3	1	6	El Paso, Tex.	54	33	11	3	4	3	2
Schenectady, N.Y.	33	23	8	1	1	-	-	Fort Worth, Tex.	90	54	18	8	8	2	3
Scranton, Pa. †	38	30	6	2	-	-	2	Houston, Tex.	377	211	87	47	17	15	5
Syracuse, N.Y.	75	51	16	3	2	3	6	Little Rock, Ark.	61	39	13	3	3	3	6
Trenton, N.J.	37	22	10	3	-	2	-	New Orleans, La.	111	66	25	13	4	3	-
Utica, N.Y.	23	17	5	1	-	-	1	San Antonio, Tex.	128	92	17	8	8	3	10
Yonkers, N.Y.	21	16	4	-	-	-	-	Shreveport, La.	61	45	13	2	1	-	-
								Tulsa, Okla.	71	55	9	2	3	2	5
E N CENTRAL	2,154	1,401	472	150	55	76	81	MOUNTAIN	564	358	127	43	18	20	24
Akron, Ohio	80	52	17	3	4	4	-	Albuquerque, N.Mex.	44	30	11	1	-	2	-
Canton, Ohio	34	23	10	1	-	-	1	Colo. Springs, Colo.	31	22	7	2	-	-	4
Chicago, Ill. §	564	361	125	48	10	22	16	Denver, Colo.	99	67	18	9	2	3	4
Cincinnati, Ohio	98	57	19	10	3	9	7	Las Vegas, Nev.	70	43	17	6	2	2	6
Cleveland, Ohio	142	87	32	12	4	7	3	Ogden, Utah	24	12	8	4	-	-	2
Columbus, Ohio	131	77	35	4	6	9	4	Phoenix, Ariz.	129	68	36	10	7	8	4
Dayton, Ohio	102	74	15	7	1	5	-	Pueblo, Colo.	24	16	7	-	-	1	2
Detroit, Mich.	241	157	53	19	6	7	5	Salt Lake City, Utah	55	39	6	4	3	3	2
Evansville, Ind.	49	36	6	5	1	1	5	Tucson, Ariz.	88	59	17	7	4	1	-
Fort Wayne, Ind.	49	30	12	3	3	1	2								
Gary, Ind.	19	11	3	4	1	-	1	PACIFIC	1,636	1,030	338	166	51	48	101
Grand Rapids, Mich.	50	33	6	4	3	4	7	Berkeley, Calif.	18	15	3	-	-	-	1
Indianapolis, Ind.	145	88	39	11	4	3	3	Fresno, Calif.	71	46	13	6	4	2	8
Madison, Wis.	34	26	5	2	-	1	6	Glendale, Calif.	30	24	4	2	-	-	2
Milwaukee, Wis.	129	87	30	8	6	1	9	Honolulu, Hawaii	60	36	15	6	2	1	6
Peoria, Ill.	33	27	4	1	-	1	2	Long Beach, Calif.	69	47	12	2	4	4	9
Rockford, Ill.	40	30	5	5	-	-	1	Los Angeles, Calif.	403	228	95	51	14	12	14
South Bend, Ind.	48	35	12	1	-	-	2	Oakland, Calif.	72	44	14	9	2	3	12
Toledo, Ohio	104	69	25	6	2	4	4	Pasadena, Calif.	45	31	9	1	1	3	1
Youngstown, Ohio	62	41	19	1	-	-	1	Portland, Ore.	94	57	22	8	6	1	6
								Sacramento, Calif.	143	102	22	12	4	3	10
W N CENTRAL	587	402	103	39	21	22	28	San Diego, Calif.	117	66	32	11	-	8	7
Des Moines, Iowa	41	27	6	3	2	3	1	San Francisco, Calif.	152	86	28	31	3	4	3
Duluth, Minn.	19	13	5	-	-	1	2	San Jose, Calif.	152	98	35	16	3	-	13
Kansas City, Kans.	25	11	8	5	1	-	1	Seattle, Wash.	123	86	20	9	6	2	4
Kansas City, Mo.	107	69	23	9	3	3	8	Spokane, Wash.	50	36	8	-	2	4	5
Lincoln, Nebr.	39	29	5	-	3	2	5	Tacoma, Wash.	37	28	6	2	-	1	-
Minneapolis, Minn.	57	48	10	1	-	-	4								
Omaha, Nebr.	51	32	9	5	2	3	3	TOTAL	10,943 ^{††}	7,028	2,333	900	342	336	496
St. Louis, Mo.	145	95	19	15	9	7	-								
St. Paul, Minn.	73	55	14	1	1	2	1								
Wichita, Kans.	30	25	4	-	-	1	1								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES (Total)	11,761,000	866.7
Unintentional injuries‡ (E900-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E979)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity§ (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*For details of calculation, see footnotes for Table V, *MMWR* 1986;35:27.

†Cause-specific mortality rates as reported in the MVSR are compiled from a 10% sample of all deaths.

‡Equivalent to accidents and adverse effects.

§Category derived from disorders relating to short gestation and respiratory distress syndrome.

Suicide and Homicide — Continued

References

1. CDC. Homicide among young black males—United States, 1970-1982. *MMWR* 1985;34:629-33.
2. Rosenberg ML, Stark E, Zahn MA. Interpersonal violence: homicide and spouse abuse. In: *Public Health and Preventive Medicine*, 12th edition, JM Last, ed. Norwalk, Connecticut: Appleton-Century-Crofts, 1986:1399-426.
3. U.S. Department of Health and Human Services. Report of the Secretary's Task Force on Black and Minority Health. Washington, D.C.: Department of Health and Human Services, 1985.
4. U.S. Bureau of the Census. Current population reports, series P-25, no. 965. Estimates of the population of the United States by age, sex, and race: 1980 to 1984. Washington, D.C., 1985.
5. CDC. Suicide—United States, 1970-1980. *MMWR* 1985;34:353-7.
6. CDC. Suicide surveillance. Atlanta, Georgia: Centers for Disease Control, 1985.

Current Trends**Measles — United States, 1985**

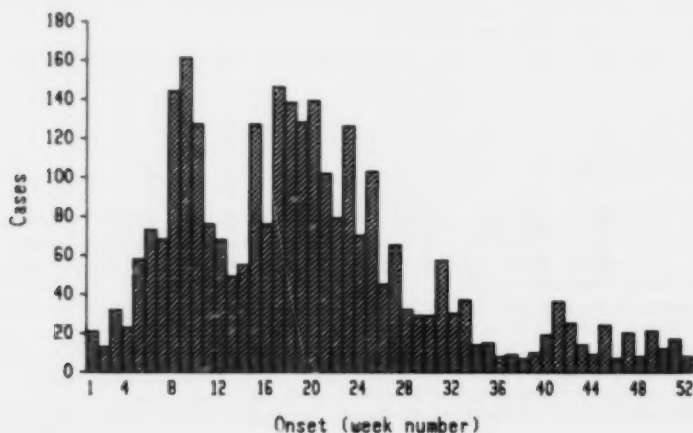
Through December 28, 2,704 cases of measles in the United States were reported to *MMWR* for 1985. Detailed information reported to CDC's Division of Immunization is available for a provisional total of 2,813 cases for 1985, which includes some late reported cases. The 2,813 cases represent an 8.7% increase over the 2,587 cases reported in 1984. The overall incidence rate increased from 1.1 cases per 100,000 population in 1984 to 1.2/100,000 in 1985. Ten states accounted for 2,106 (74.9%) cases: Texas (443 cases), Illinois (360), California (270), Arizona (240), Washington (174), Montana (139), Idaho (132), Massachusetts (118), Maryland (115), and Florida (115). Ten reporting areas had incidence rates greater than 2/100,000 population: Arizona, District of Columbia, Hawaii, Idaho, Illinois, Maryland, Massachusetts, Montana, Texas, and Washington. During 1984 and 1985, 14 and 12 states, respectively, reported no measles cases (indigenous or imported). Of the nation's 3,139 counties, 220 (7.0%) reported measles cases in 1985, compared with 210 (6.7%) in 1984.

Of the 2,813 cases, 2,718 (96.6%) met the standard case definition for measles,* and 1,071 (38.1%) were serologically confirmed. Most of the patients (68%) had rash onset between weeks 8 and 25 (weeks ending February 23 and June 22) (Figure 4).

In 1984, the highest incidence rate was reported among children 10-14 years of age (Table 3). By comparison, in 1985, the highest incidence rate occurred among preschool-aged children (4.7/100,000), followed by persons 15-19 years of age (4.5/100,000). Of the 826 preschool-aged children with measles, 211 (25.5%) were infants under 1 year of age; 143 (17.3%) were 12-14 months of age; 41 (5.0%) were 15 months of age; and 431 (52.2%) were 16 months-4 years of age.

*Fever (38.3 C [101 F] or higher, if measured), generalized rash lasting 3 or more days, and at least one of the following: cough, coryza, conjunctivitis.

FIGURE 4. Reported measles cases, by week of rash onset — United States, 1985



Measles — Continued

The setting of transmission was reported for 1,864 (66.3%) measles patients: 1,129 (60.6%)—school[†]; 278 (14.9%)—home; 87 (4.7%)—medical settings; 94 (5.0%)—day care; 94 (5.0%)—church; and 182 (9.8%)—other (including sporting events and summer camp). Of the 2,813 total cases, 354 (12.6%) were reported on 26 college campuses (Table 4).

One hundred twenty-one cases (4.3%) were international importations. An additional 166 (5.9%) cases were epidemiologically linked to an international importation within two generations of infection. Therefore, 287 (10.2% of all cases) were classified as international importations during this period (7).

Vaccination status of patients in 1984 and 1985 was similar. Of the 2,813 measles patients in 1985, 1,239 (44.0%) had been appropriately vaccinated (on or after the first birthday); 381 had been vaccinated at 12-14 months of age (Table 5). A total of 1,442 measles patients were unvaccinated, and 132 had histories of inadequate vaccination (vaccinated before the first birthday).

Of the 2,804 cases with known preventability status, 820 (29.2%) were classified as preventable (7). The highest proportion of preventable cases occurred among persons who

[†]Includes kindergarten through college.

TABLE 3. Age distribution and estimated incidence rates of measles — United States, 1984 and 1985

Age group (yrs.)	1984			1985*			Rate change [§]
	No.	(%)	Rate [†]	No.	(%)	Rate [†]	
0-4	617	(23.9)	3.5	826	(29.5)	4.7	+34.3%
5-9	278	(10.8)	1.7	255	(9.1)	1.6	-7.9%
10-14	671	(26.0)	3.8	503	(18.0)	2.9	-24.8%
15-19	676	(26.2)	3.6	843	(30.1)	4.5	+25.1%
20-24	204	(7.9)	1.0	231	(8.2)	1.1	+13.2%
≥ 25	137	(5.3)	0.1	143	(5.1)	0.1	-4.4%
Total	2,583[¶]	(100.0)	1.1	2,801[¶]	(100.0)	1.2	+8.8%

*Provisional data.

[†]Per 100,000 population. Rates estimated by extrapolating age distribution of patients with known age to the entire number of reported cases.

[§]Based on actual, not rounded, rates.

[¶]The difference between this number and that in the text reflects cases of unknown age.

TABLE 4. Reported measles cases on college campuses — United States, 1980-1985

Year	Total U.S. cases	Campus cases		No. colleges reporting measles
		No.	(%)	
1980	13,506	200	(1.5)	36
1981	3,124	101	(3.3)	19
1982	1,714	115	(6.7)	14
1983	1,497	296	(19.8)	19
1984	2,587	67	(2.6)	17
1985	2,813*	354	(12.6)	26

*Provisional data.

Measles — Continued

were not of school age: 73.8% of cases among children 16 months–4 years of age were preventable (Table 6). Only 21.7% of cases among school-aged persons (5–19 years of age) were preventable. However, 347 (42.3%) of all 820 preventable cases occurred in this age group.

Of the 1,984 nonpreventable cases, 395 (19.9%) were among children too young for routine vaccination (under 16 months of age), and 71 (3.6%) persons were too old (born before 1957). Of the 1,518 between 16 months and 28 years of age, 1,207 (79.5%) had been vaccinated on or after the first birthday; 14 (0.9%) had a prior physician diagnosis of measles; 48

TABLE 5. Age of measles patients at most recent vaccination — United States, 1984 and 1985

Age at vaccination	1984		1985*	
	No.	(%)	No.	(%)
< 12 mos.	185	(7.3)	132	(4.7)
12–14 mos.	344	(13.5)	381	(13.5)
15 mos.	52	(2.0)	77	(2.7)
16 mos.–4 yrs.	387	(15.2)	463	(16.5)
5–9 yrs.	166	(6.5)	217	(7.7)
10–14 yrs.	36	(1.4)	91	(3.2)
15–19 yrs.	8	(0.3)	8	(0.3)
≥ 20 yrs.	2	(0.1)	2	(0.1)
Unknown (> 12 mos.)	4	(0.2)	0	(0.0)
Unvaccinated	1,359	(53.4)	1,442	(51.3)
Total	2,543[†]	(100.0)	2,813	(100.0)

*Provisional data.

[†]The difference between this number and that in the text reflects cases with unknown vaccination status.

TABLE 6. Age distribution and preventability of measles cases — United States, 1984 and 1985

Age group	1984		1985*	
	Total cases	Preventable cases No. (%)	Total cases	Preventable cases No. (%)
≤ 15 mos.	336	0 (0.0)	395	0 (0.0)
16 mos.-4 yrs.	286	210 (73.4)	431	318 (73.8)
5-9 yrs.	283	69 (24.4)	255	63 (24.7)
10-14 yrs.	679	180 (26.5)	503	93 (18.5)
15-19 yrs.	650	238 (36.6)	843	191 (22.7)
20-24 yrs.	173	135 (78.0)	231	98 (42.4)
25-29 yrs.	75	42 (56.0)	72	57 (79.2)
≥ 30 yrs.	61	0 (0.0)	71	0 (0.0)
Unknown	0	0 (0.0)	3 [†]	0 (0.0)
Total	2,543 [§]	874 (34.4)	2,804 [§]	820 (29.2)

*Provisional data.

[†]Three of the 12 patients of unknown age had known preventability status (nonpreventable).

[§]The difference between this number and that in the text reflects patients with unknown preventability status.

Measles — Continued

(3.2%) were non-U.S. citizens, and 248 (16.3%) had medical contraindications or other exemptions under state law (Table 7).

Reported by Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: In the prevaccine era, an average of 500,000 cases were reported each year (2). Since measles vaccine was licensed in 1963, the incidence of measles has declined markedly. While the number of cases increased 8.7% from 1984 to 1985, the provisional total of 2,813 cases still represents only 0.6% of the average number of reported cases in the prevaccine era. Since 1981, the reported occurrence of measles has stabilized between approximately 1,500 and 3,200 cases. However, slight increases have been noted annually since the record low 1,497 cases reported in 1983.

The highest incidence rate in 1985 occurred in the preschool-aged population, which accounted for approximately 30% of all reported cases. Recent outbreaks involving a substantial proportion of preschool-aged children have also occurred (3,4). The increased incidence of measles among preschoolers is a source of concern, since the risk of serious complications of measles illness is highest in the youngest age groups (2). Seventy-four percent of cases among children 16 months to 4 years of age were preventable, emphasizing the need to vaccinate children promptly at the recommended age for routine vaccination (15 months).

The next highest incidence rate in 1985 occurred among persons 15-19 years of age, who accounted for another 30% of total cases. The increased rate in this age group over 1984 was due in part to the large number of outbreaks on college campuses. The proportion of total cases occurring on college campuses in 1985 was higher than that of any of the previous 6 years, except 1983 (Table 4). An increased number of colleges and universities are now requiring evidence of immunity to measles for matriculation, which should decrease measles in this population (5).

Persons of school age accounted for the largest percentage of all preventable cases, and schools were the setting of transmission for the majority of cases. Therefore, continued enforcement of current school immunization laws is important for further reduction of measles in the United States.

TABLE 7. Reasons measles cases were classified as nonpreventable — United States, 1985*

Causes of nonpreventability	No. cases (%)	Percentage of total cases †
Persons > 16 mos. of age	395 (19.9)	14.1
Persons born before 1957	71 (3.6)	2.5
Persons 16 mos.-28 yrs. of age	1,518 (76.5)	54.1
Appropriately vaccinated	1,207 (79.5)	
Prior M.D. diagnosis	14 (0.9)	
Non-U.S. citizens	48 (3.2)	
Exemptions §	248 (16.3)	
Laboratory evidence of immunity	1 (0.1)	
Total	1,984 (100.0)	70.8

*Provisional data.

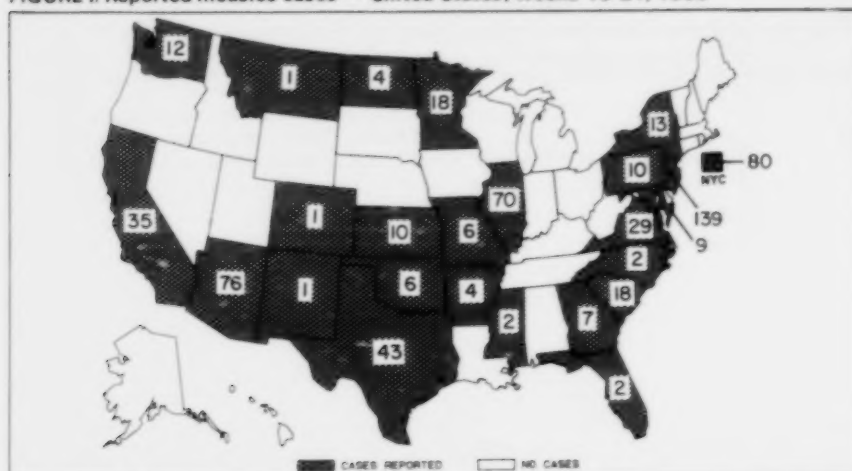
†Percentage of total cases with known preventability status (2,804).

§Medical — 8, religious — 204, philosophic — 36.

*Measles — Continued**References*

1. CDC. Classification of measles cases and categorization of measles elimination programs. MMWR 1982;31:707-11.
2. CDC. Measles surveillance report no. 11, 1977-1981. Atlanta, Georgia: Centers for Disease Control, 1982.
3. CDC. Measles—Arizona. MMWR 1986;35:99-100, 105-7.
4. CDC. Measles—New Jersey. MMWR 1986;35:213-5.
5. CDC. Measles on college campuses—United States, 1985. MMWR 1985;34:445-9.

FIGURE 1. Reported measles cases — United States, weeks 18-21, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/40006 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 *
NEWARK PUBLIC LIBR *
5 WASHINGTON ST *
NEWARK NJ 07101 *
*

35/23

CENTERS FOR DISEASE CONTROL

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

June 13, 1986 / Vol. 35 / No. 23

- 373 Hepatitis B Associated with Jet Gun Injection — California
- 376 Recommendations for Providing Dialysis Treatment to Patients Infected with HTLV-III/LAV
- 383 Gastroenteritis Outbreaks on Two Caribbean Cruise Ships
- 384 Rapid Nutritional Status Evaluation During Drought Conditions — Republic of Niger
- 387 Salmonellosis Outbreaks Associated with Commercial Frozen Pasta — Massachusetts, New Jersey, New York

Epidemiologic Notes and Reports

Hepatitis B Associated with Jet Gun Injection — California

In March 1985, during routine investigation of hepatitis B (HB) case reports, an epidemiologist at the Long Beach (California) Department of Public Health noted that three HB patients had each received injections at the same weight-reduction clinic (clinic A) before disease onset. When review of previous case records and questioning of newly reported HB patients identified five additional HB cases among clinic attendees, the California Department of Health Services joined in the investigation of the clinic on July 1, 1985.

Clinic A belonged to a chain of 29 weight-reduction clinics located throughout southern California. Attendees at the clinics typically received a series of daily parenteral injections of human chorionic gonadotropin (HCG). Injections were usually given by jet injectors (Med-E-Jet Corp, Cleveland, Ohio), although some attendees received injections with single-use disposable needles and syringes. A standard regimen consisted of 30 injections; however, individuals varied considerably in duration of treatment and number of injections received.

The investigation focused on a cohort of 341 persons who attended clinic A during the first 6 months of 1985. Clinical history, review of risk factors for acquiring hepatitis B virus (HBV) infection, serologic testing for HBV markers (hepatitis B surface antigen [HBsAg], antibody to HB core antigen [anti-HBc], and IgM anti-HBc) and quantification of parenteral exposures at the clinic were obtained on 287 (84%) of cohort members. For comparison, 93 new attendees (after July 1, 1985) at clinic A and random samples of 100 prior attendees and 70 new attendees at the other Long Beach clinic (clinic B) were tested for markers of HBV infection.

Ultimately, 31 cases of clinical HB were identified among attendees of Clinic A (Figure 1). Onset dates ranged from January 1984 to November 1985, with the majority of cases occurring between February and November 1985. Only two (6%) of the patients with clinical HB had other identified risk factors for acquiring HBV infection in the 6 months before their illnesses.

The serologic study demonstrated that 21% of the cohort that attended clinic A between January 1, and July 1, 1985, had evidence of recent HBV infection, including 27 clinical and 33 subclinical (IgM anti-HBc positive) cases. In contrast, none of the 93 new attendees of clinic A had evidence of recent HBV infection ($p < 0.01$). When all serologic markers of HBV infection were examined, 43% of the cohort that attended clinic A between January 1 and July 1 had evidence of HBV infection, compared with 7% of new attendees at clinic A; 8% of persons who attended clinic B on or before July 1; and 6% of persons who began attending clinic B after July 1.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

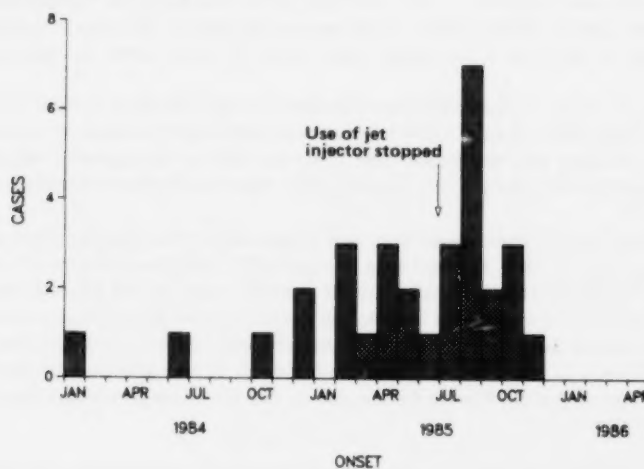
HE 20,7009:

Hepatitis B — Continued

On initial analysis of the cohort members, exposure to the jet injectors and HCG were both significantly associated with the development of acute HBV infection. However, two lots of HCG used at the clinic during the outbreak (from February 1985 onward) were negative when tested for HBsAg. Furthermore, stratification of cohort members who received HCG by type of parenteral inoculation (jet injector only, compared with syringe only) showed that 24% of those receiving injections by jet injector had developed acute HBV infection compared with none of those receiving injections by syringe only ($p < 0.01$) (Table 1). These two groups had similar numbers of HCG exposures, with the syringe-only group averaging 31, while the jet injector-only group averaged 27.

Some patients at clinic A reported that they had sustained lacerations and bruising in the course of receiving the jet injections. Written protocols at clinic A specified that the Med-E-Jet injector nozzle be wiped with 70% isopropyl alcohol between injections, and that at the end of each day, the nozzle retaining cap and the tip be removed and disinfected. As an adjunct to this investigation, CDC conducted a series of *in vitro* and *in vivo* laboratory experiments to assess the potential for a contaminated Med-E-Jet to transmit HBV from patient to patient and to assess the potential for HBsAg contamination of this jet injector during actual use. After contaminating the nozzle tip of the jet injector with a known quantity (0.025 ml) of HBsAg-containing serum, the injector was fired into separate 1-dram vials (to simulate downstream transmission) and swab samples were taken of the exterior and interior surfaces of the nozzle. This procedure was repeated 10 times. A second set of experiments was conducted using the same procedure but with acetone swabbing to provide mechanical cleaning of the tip before discharge into the vials. In the first set of experiments (no acetone swabbing), HBsAg was found in 80% of the injection fluid vials and 87% of the swabs from the exterior and interior nozzle surfaces. Swabbing the contaminated tip of the Med-E-Jet with a cotton ball moistened in acetone did not significantly reduce the frequency with which HBsAg was found in any of these sites. However, the Med-E-Jet did not become contaminated during actual use when five injections were done on an HBsAg-positive chimpanzee. Bleeding did

FIGURE 1. Cases of acute clinical hepatitis B in a weight-reduction clinic, by month of onset — California, 1984-1985



Hepatitis B — Continued

occur at the injection sites, even though injections were carefully done according to manufacturers recommendations.

The jet injectors were removed from use at clinic A on July 2. No cases have been identified among persons treated at clinic A after this date, and no cases associated with any of the other clinics in the chain have been identified to date. Both the manufacturer and the U.S. Food and Drug Administration have been informed of these findings.

Reported by R Shah, MD, K Mackey, MPH, H Wallace, DrPH, K Yawata, Long Beach Dept of Public Health, R Roberto, MD, J Meissinger, MSPH, Infectious Disease Br, M Ascher, MD, S Hagens, MA, Viral and Rickettsial Disease Laboratory, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; Div of Field Svcs, Epidemiology Program Office, Hepatitis Br, Div of Viral Diseases, Nosocomial Infections Laboratory Br, Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: This is the first reported outbreak of any disease in which any kind of jet injector has been implicated as the vehicle of transmission. The CDC experiments reported here suggest that the Med-E-Jet, if contaminated, could transmit HBV but that it does not become contaminated easily during actual use. Once contaminated, however, the Med-E-Jet could not be easily cleaned by a simple swabbing technique, probably because of inaccessibility of contaminated surfaces of the nozzle tip and under the nozzle retaining cap. Furthermore, wiping the nozzle tip with a swab soaked in alcohol or acetone would not be expected to inactivate HBV. To ensure proper decontamination, disassembly and sterilization of the nozzle tip would be necessary.

Other investigators have attempted to assess the risk of HBV transmission by applying jet injections, using another model of jet injector, to two human chronic hepatitis B carriers and evaluating injection sites and the injection nozzle for contamination with HBsAg (1). All swab samples from injection sites and the exterior surface of the nozzle were negative for HBsAg. One other study, however, demonstrated transmission of the lactic dehydrogenase (LDH) virus between mice by subcutaneous jet injection with a Med-E-Jet (2). In the CDC studies, the estimated volume of contaminating material transferred in downstream injections was 0.53 μ l (0.53×10^{-3} ml). Therefore, it can be estimated that viruses that circulate in high titers in blood, such as HBV (10^8 /ml) and LDH virus (10^7 /ml), could be transferred during a procedure if gun contamination occurred. The probability of transferring microorganisms present in lower concentration ($< 10^3$ /ml) would be correspondingly lower.

The extensive transmission of HBV infection in this outbreak appears to have resulted from the unusual circumstance of multiple repeated jet gun injections in a cohort of patients. The initial likelihood of a highly infectious (HBsAg-positive) HBV carrier attending the clinic was low, but after initial disease transmission from such a carrier, patients incubating disease could serve as sources of infection for others, amplifying infection risk through several cycles and ultimately leading to high attack rates in the study cohort. Nevertheless, the magnitude of

TABLE 1. Hepatitis B virus infections in HCG recipients by method of parenteral inoculation — California, 1985

HBV classification	No. (%) positive for HBV infection		Significance*
	Jet injector only (N = 239)	Syringe only (N = 22)	
Acute clinical	24 (10)	0 (0)	p = 0.11
Total acute infections	57 (24)	0 (0)	p < 0.01
Total (any serologic marker)	112 (47)	1 (4)	p < 0.01

*Jet injector vs. syringe, Fisher's exact test.

Hepatitis B - Continued

this outbreak can be explained only if the jet injector became contaminated repeatedly during use at the clinic.

Before this outbreak, virtually all epidemiologic observations have indicated that the jet-injector method of administering parenteral fluids, when properly done, is safe and effective. The current data suggest that, if this type of jet injector (Med-E-Jet) becomes contaminated with blood, disease transmission can occur and indicate a need for further assessments of the possibilities of disease transmission by other types of jet guns. Proper design of jet injectors to minimize risk of blood contamination of the nozzle tips, training in use of guns, and care in cleaning and disinfection if blood contamination occurs is necessary to ensure the continued safe use of these instruments.

References

1. Abb J, Deinhardt F, Eisenburg J. The risk of transmission of hepatitis B virus using jet injection in inoculation. *J Infect Dis* 1981;144:179.
2. Brink PRG, van Loon AM, Trommelen JCM, Gribnau FWJ, Smael-Novakova IRO. Virus transmission by subcutaneous jet injection. *J Med Microbiol* 1985;20:393-7.

*Current Trends***Recommendations for Providing Dialysis Treatment to Patients Infected with Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus**

Patients with end-stage renal disease who are undergoing maintenance dialysis and who have manifestations of human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV)* infection, including acquired immunodeficiency syndrome (AIDS), or who are positive for antibody to HTLV-III/LAV can be dialyzed in hospital-based or free-standing dialysis units using conventional infection-control precautions. Standard blood and body fluid precautions and disinfection and sterilization strategies routinely practiced in dialysis centers are adequate to prevent transmission of HTLV-III/LAV.

Soon after AIDS was recognized in the United States, it became apparent that risk factors for persons with AIDS were similar to risk factors for persons with hepatitis B virus (HBV) infection (1). Prevention measures applied to control HBV infection in health-care institutions were used as a model to develop infection-control guidelines for patients with AIDS before the identification of the etiologic agent and the development of serologic tests for antibody to HTLV-III/LAV (anti-HTLV-III). Isolation of infected patients and nonreuse of a dialyzer by the same patient were initially recommended for patients receiving dialysis in dialysis centers (2). These strategies are not currently believed necessary for preventing HTLV-III/LAV transmission.

No transmission of HTLV-III/LAV infection in the dialysis-center environment has been reported (3), and the possibility of such transmission appears extremely unlikely when routine infection-control precautions are followed (4). The routine infection-control precautions used in all dialysis centers when dialyzing all patients are considered adequate to prevent HTLV-III/LAV transmission. These would include: blood precautions; routine cleaning and disinfection

*An international committee on taxonomy has proposed the name human immunodeficiency virus (HIV).

HTLV-III/LAV - Continued

of dialysis equipment and surfaces that are frequently touched; and restriction of nondisposable supplies to individual patients unless such supplies are sterilized between uses (2).

The following recommendations take into consideration recent knowledge about HTLV-III/LAV and update infection-control strategies for dialyzing patients infected with HTLV-III/LAV:

1. Procedures for environmental control and for disinfection and sterilization of hemodialysis machines have been described (5). The hemodialysis machine pumps dialysis fluid into the dialyzer (artificial kidney) where circulating blood from the patient is separated from the dialysis fluid by a membrane. The dialyzer, along with the associated blood lines, is disposable. Strategies for disinfecting the dialysis fluid pathways of the hemodialysis machine are targeted to control bacterial contamination and generally consist of using about 500-750 ppm of sodium hypochlorite for 30-40 minutes or 1.5%-2.0% formaldehyde overnight. In addition, several chemical germicides formulated to disinfect dialysis machines are commercially available. None of these protocols or procedures need to be altered after dialyzing patients infected with HTLV-III/LAV. Chemical germicides used for disinfection and sterilization of devices in the dialysis center are effective against HTLV-III/LAV (4).
2. Patients infected with HTLV-III/LAV can be dialyzed by either hemodialysis or peritoneal dialysis and do not need to be isolated from other patients. The type of dialysis treatment (i.e., hemodialysis or peritoneal dialysis) should be based on the needs of the patient. The dialyzer may be discarded after each use. Alternatively, centers that have dialyzer-reuse programs, in which a specific dialyzer is issued to a specific patient, removed, cleaned, disinfected, and reused several times on the same patient only, may include HTLV-III/LAV-infected patients in the dialyzer-reuse program. An individual dialyzer must never be used on more than one patient.
3. Standard infection-control strategies that are used routinely in dialysis units for all dialysis patients and personnel should be used to prevent HTLV-III/LAV transmission. Specifically, these strategies include blood precautions and barrier techniques, such as the use of gloves, gowns, and handwashing techniques, that have been described elsewhere (4-8).
4. Precautions against needlestick injuries, as well as the appropriate use of barrier precautions, such as wearing gloves when handling items contaminated with blood or serum, should be practiced by all personnel caring for all dialysis patients. Such injuries constitute the major potential risk for HTLV-III/LAV transmission to personnel. Extraordinary care should be taken to prevent injuries to hands caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments following procedures. After use, disposable syringes and needles, scalpel blades, and other sharp items must be placed in puncture-resistant containers for disposal. To prevent needlestick injuries, needles should not be recapped; purposefully bent or broken; removed from disposable syringes; or otherwise manipulated by hand. No data are currently available from controlled studies examining the effect, if any, of the use of needle-cutting devices on the incidence of needlestick injuries.

Reported by Hospital Infections Program, AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: In a study of 520 dialysis patients, 25 were reactive for anti-HTLV-III/LAV by enzyme immunoassay (EIA), but only four were confirmed by the Western blot technique (3). The rate of falsely reactive EIA tests among these dialysis patients was 4%, much higher than the falsely reactive rate for blood donors (0.17%). The rate of truly reactive tests was 0.8%.

HTLV-III/LAV - Continued

much lower than in high-risk groups but higher than in blood donors. The higher rate of falsely reactive tests is probably due to the exposure of dialysis patients to H9-cell-associated antigens during blood transfusions that are common among these patients. These antigens are also present in cell lines used to grow HTLV-III/LAV for use as reagents in serologic tests for anti-HTLV-III/LAV (9). Identification of antibody to H9 lymphoid cell lines in the absence of isolation of HTLV-III/LAV in dialysis patients with reactive EIA and nonreactive Western blot tests supports the conclusion that these test results are falsely reactive. The higher rate of truly reactive tests most likely reflects the frequency of blood transfusion in this patient population before initiation of blood donor screening for anti-HTLV-III/LAV. None of the four infected persons identified in that study were dialyzed in the same dialysis center.

CDC is initiating a cooperative study to further assess the prevalence of anti-HTLV-III/LAV among patients undergoing chronic hemodialysis. Representatives of dialysis centers who are interested in participating in such a study and who regularly have more than 60 patients on dialysis should contact the Hospital Infections Program, Center for Infectious Diseases, CDC, Building 1, Room 5065, Atlanta, Georgia 30333 (telephone [404] 329-3406).

(Continued on page 383)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	23rd Week Ending			Cumulative, 23rd Week Ending		
	June 7, 1986	June 8, 1985	Median 1981-1985	June 7, 1986	June 8, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	141	155	N	5,428	3,086	N
Asplenic meningitis	94	124	131	1,937	1,699	1,803
Encephalitis: Primary (arthropod-borne & unspc.)	8	21	21	323	402	399
Post-infectious:	7	2	2	48	61	49
Gonorrhea: Civilian	15,101	17,140	17,140	356,295	347,132	387,280
Military	193	230	472	8,833	8,279	10,644
Hepatitis: Type A	339	470	389	9,518	9,381	9,709
Type B	396	504	467	11,004	10,917	10,208
Non A, Non B	66	55	N	1,502	1,804	N
Unspecified	66	129	163	2,135	2,407	3,219
Legionellosis	11	20	N	234	282	N
Leprosy	7	2	2	122	162	105
Measles: Total**	31	15	15	341	329	330
Indigenous	374	53	66	3,330	1,384	1,384
Imported	353	51	N	3,154	1,133	N
Meningococcal infections: Total	21	2	N	176	251	N
Civilian	29	36	62	1,355	1,296	1,531
Military	29	36	61	1,353	1,291	1,528
Mumps	-	-	-	2	5	7
Pertussis	47	64	109	1,811	1,765	1,948
Rubella (German measles)	77	55	25	1,120	714	714
Syphilis (Primary & Secondary): Civilian	10	12	62	242	252	607
Military	413	468	525	11,036	10,900	13,214
Toxic Shock syndrome	3	4	4	82	83	166
Tuberculosis	1	5	N	154	174	N
Typhoid fever	444	393	536	8,980	8,730	9,810
Typhus fever, tick-borne (RMSF)	1	9	11	30	63	74
Rabies, animal	3	4	5	107	130	144
	33	32	40	144	159	179
	82	102	122	2,382	2,250	2,723

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	17
Botulism: Foodborne	4	Plague	-
Infant	22	Polioencephalitis, Paralytic	-
Other	-	Psittacosis	30
Brucellosis (N.Y. City, N.Y. 1, Calif. 1)	30	Rabies, human	-
Cholera	-	Tetanus	17
Congenital rubella syndrome	2	Trichinosis	9
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine)	10
Diphtheria	-		

*Three of the 374 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
June 7, 1986 and June 8, 1985 (23rd Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel- losis	Leprosy
			Primary	Post-in- fectious			A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	5,428	94	323	48	356,295	347,132	339	396	66	66	11	122
NEW ENGLAND	216	3	9	2	8,184	10,440	6	37	5	5	-	5
Maine	11	-	-	-	417	426	1	3	2	-	-	-
N.H.	6	-	2	-	212	214	-	-	-	-	-	-
Vt.	2	1	2	1	113	123	1	2	1	-	-	-
Mass	112	1	2	-	3,541	3,905	3	21	1	4	-	5
R.I.	13	-	-	-	764	802	-	4	1	-	-	-
Conn.	72	-	3	1	3,137	4,970	1	7	-	1	-	-
MID ATLANTIC	2,126	8	50	4	59,914	50,563	19	28	5	10	-	11
Upstate N.Y.	200	6	19	3	6,929	6,879	14	9	3	-	-	1
N.Y. City	1,437	1	11	-	34,703	23,912	2	2	-	10	-	9
N.J.	334	1	6	-	7,915	9,005	3	17	2	-	-	-
Pa.	155	-	14	1	10,367	10,767	-	-	-	-	-	1
E.N. CENTRAL	337	6	73	7	46,987	48,740	7	33	3	3	3	4
Ohio	65	2	20	2	11,256	12,264	1	12	1	1	3	-
Ind.	29	2	9	2	5,480	4,874	1	4	1	1	-	-
Ill.	170	-	18	2	13,025	13,564	-	-	-	-	-	3
Mich.	56	2	24	1	15,024	13,839	5	17	1	1	-	1
Wis.	17	-	2	-	2,202	4,199	-	-	-	-	-	-
W.N. CENTRAL	94	1	10	7	15,652	17,374	8	14	4	-	2	2
Minn.	42	-	6	-	2,263	2,570	1	1	1	-	-	1
Iowa	7	1	4	-	1,623	1,820	2	-	1	-	-	-
Mo.	25	-	-	-	8,025	8,221	3	3	-	-	-	-
N. Dak.	2	-	-	-	135	128	-	-	-	-	-	-
S. Dak.	1	-	-	-	332	315	2	-	2	-	-	-
Nebr.	5	-	-	-	1,129	1,531	-	4	-	-	-	-
Kans.	12	-	-	7	2,145	2,789	-	6	-	-	2	1
S. ATLANTIC	719	18	46	15	86,972	75,414	73	99	16	4	6	1
Del.	12	-	3	-	1,484	1,691	-	1	-	-	-	-
Md.	78	2	12	-	10,731	11,960	5	13	1	-	4	-
D.C.	103	-	-	-	7,157	6,197	-	-	1	-	-	-
Va.	75	1	16	1	7,753	7,781	-	4	-	-	-	1
W. Va.	2	-	6	-	1,034	1,067	1	1	-	1	-	-
N.C.	32	3	8	1	15,115	14,448	1	12	4	-	1	-
S.C.	18	3	-	-	8,362	9,308	1	34	5	2	1	-
Ge.	87	3	-	-	9,359	-	1	9	-	-	-	-
Fla.	312	6	1	13	25,977	22,956	64	25	5	1	-	-
E.S. CENTRAL	69	7	21	2	30,259	30,068	6	24	3	-	-	1
Ky.	14	3	9	1	3,453	3,313	4	3	-	-	-	-
Tenn.	36	-	2	1	11,803	11,867	1	9	1	-	-	-
Ala.	12	4	9	-	8,547	9,794	1	12	2	-	-	1
Miss.	7	-	1	-	6,456	5,094	-	-	-	-	-	-
W.S. CENTRAL	368	18	33	3	45,402	47,491	25	31	8	10	-	7
Ark.	15	-	-	-	4,195	4,429	2	6	1	-	-	-
La.	66	4	2	-	8,140	9,774	1	3	-	-	-	-
Okl.	17	-	8	-	5,260	4,953	7	3	3	-	-	-
Tex.	270	14	23	3	27,807	28,335	15	19	4	10	-	7
MOUNTAIN	150	10	15	1	11,095	11,294	40	26	3	5	-	8
Mont.	3	-	-	1	304	315	-	-	-	-	-	-
Idaho	1	-	-	-	365	377	3	-	-	-	-	-
Wyo.	4	8	2	-	261	280	-	-	-	1	-	-
Colo.	81	-	2	-	2,894	3,458	8	5	-	-	-	3
N. Mex.	6	-	1	-	1,120	1,317	16	-	-	-	-	-
Ariz.	36	-	7	-	3,609	3,271	6	14	-	1	-	3
Utah	8	1	2	-	475	482	1	3	1	1	-	-
Nev.	11	1	1	-	2,077	1,794	6	4	2	2	-	2
PACIFIC	1,349	23	66	7	51,830	55,748	155	104	19	29	-	83
Wash.	49	1	6	-	3,917	3,890	39	22	2	5	-	10
Oreg.	29	-	-	-	2,095	2,767	20	14	3	-	-	-
Calif.	1,248	19	58	7	43,884	46,968	92	64	14	24	-	60
Alaska	9	1	2	-	1,309	1,307	4	2	-	-	-	-
Hawaii	14	2	-	-	625	816	-	2	-	-	-	13
Guam	-	-	-	-	54	83	-	-	-	-	-	1
P.R.	57	1	3	-	969	1,612	1	5	-	-	-	7
V.I.	2	U	-	-	93	213	U	U	U	U	U	-
Pac. Trust Terr.	-	-	-	-	133	421	5	-	-	4	-	18
Amer Samoa	-	-	-	-	19	-	-	-	-	-	-	1

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 7, 1986 and June 8, 1985 (23rd Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin- gococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	341	353	3,154	21	176	1,384	1,355	47	1,811	77	1,120	714	10	242	252
NEW ENGLAND	21	1	24	-	4	101	102	3	40	1	58	34	-	4	9
Maine	1	-	-	-	-	-	21	-	-	-	2	3	-	-	-
N.H.	1	-	-	-	-	-	5	-	10	1	21	17	-	1	2
Vt	1	-	-	-	-	-	15	-	1	-	3	2	-	-	-
Mass	11	1	21	-	3	96	20	2	3	-	16	5	-	-	6
R.I.	2	-	2	-	-	-	14	1	7	-	1	4	-	2	1
Conn	5	-	1	-	1	5	27	-	19	-	15	3	-	1	1
MID ATLANTIC	34	46	1,116	-	18	132	211	6	100	2	100	68	-	27	69
Upstate N.Y.	8	9	24	-	17	63	68	1	35	1	67	35	-	19	9
N.Y. City	11	20	238	-	1	35	44	-	5	-	3	9	-	5	40
N.J.	3	14	835	-	-	11	27	5	29	-	7	2	-	3	8
Pa	12	3	19	-	-	23	72	-	31	1	23	22	-	-	12
E.N. CENTRAL	12	37	465	-	12	370	181	13	1,003	-	164	98	1	12	20
Ohio	3	-	-	-	6	43	76	-	85	-	68	14	-	-	-
Ind	-	-	-	-	-	1	17	2	21	-	19	11	-	-	-
Ill	4	31	295	-	1	221	43	3	610	-	19	18	1	8	5
Mich	5	6	14	-	-	51	43	7	155	-	20	13	-	3	14
Wis	-	-	156	-	3	54	2	1	132	-	38	42	-	1	1
W.N. CENTRAL	9	2	153	-	16	9	72	1	65	2	62	61	-	7	16
Minn	3	-	27	-	4	4	15	-	1	-	28	13	-	-	2
Iowa	1	-	17	-	1	-	9	-	13	-	9	3	-	-	-
Mo	3	-	7	-	6	2	24	-	12	1	5	13	-	1	5
N. Dak	-	-	10	-	1	2	-	-	2	-	2	6	-	-	2
S. Dak	-	-	-	-	-	-	4	-	1	-	7	1	-	-	-
Nebr	1	-	-	-	-	-	8	-	-	-	-	3	-	-	-
Kans	1	2	92	-	4	1	12	1	36	1	11	22	-	6	7
S. ATLANTIC	44	48	378	17	50	170	268	11	116	5	410	163	-	8	28
Del	-	-	1	-	-	-	1	-	-	1	213	-	-	-	1
Md	7	-	19	-	8	27	35	3	9	2	64	70	-	-	-
D.C.	-	-	-	-	-	2	4	-	-	-	-	-	-	-	-
Va	8	5	19	4	24	19	50	2	20	-	15	3	-	-	1
W. Va	2	-	2	-	-	31	3	1	32	-	5	-	-	-	9
N.C.	4	-	1	-	1	3	44	1	11	-	19	8	-	-	-
S.C.	3	-	274	-	-	-	24	-	11	-	5	-	-	-	-
Ga	4	43	50	13	14	8	40	2	12	2	72	51	-	-	-
Fla	16	-	12	-	3	80	67	2	21	-	17	31	-	8	14
E.S. CENTRAL	7	-	3	-	-	1	77	1	18	1	20	6	-	1	1
Ky	2	-	-	-	-	-	15	-	3	-	1	1	-	1	1
Tenn	-	-	1	-	-	-	31	-	12	-	5	1	-	-	-
Ala	3	-	-	-	-	-	22	1	2	1	14	2	-	-	-
Miss	2	-	2	-	-	1	9	-	1	-	-	2	-	-	-
W.S. CENTRAL	28	137	490	1	29	96	110	6	124	56	86	95	-	48	20
Ark	-	-	276	-	2	-	15	-	7	1	3	11	-	-	1
La	4	1	1	-	-	10	15	1	2	-	4	5	-	-	-
Okla	3	1	8	-	4	-	15	N	N	27	51	66	-	-	1
Tex	21	135	205	1	23	86	65	5	115	28	28	13	-	48	18
MOUNTAIN	11	28	232	2	21	389	68	2	178	6	110	34	3	8	4
Mont	-	-	-	-	7	137	7	-	5	-	6	3	-	-	-
Idaho	1	1	1	-	-	89	1	1	3	-	26	-	-	-	1
Wyo	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo	2	-	2	-	4	6	10	1	9	5	32	10	-	-	-
N. Mex	-	-	21	-	5	3	8	N	N	-	9	4	-	-	2
Ariz	5	27	208	2	5	154	14	-	149	-	24	9	-	1	1
Utah	2	-	-	-	-	-	7	-	9	1	12	8	3	4	-
Nev	1	-	-	-	-	-	21	-	3	-	-	-	-	3	-
PACIFIC	175	54	293	1	26	116	266	4	167	4	110	155	8	127	85
Wash	14	7	60	-	11	1	35	-	7	1	42	24	2	5	2
Oreg	12	-	-	1	4	3	21	N	N	-	8	17	-	-	1
Calif	149	47	214	-	10	99	200	4	147	3	56	102	4	120	53
Alaska	-	-	-	-	-	-	9	-	4	-	1	9	-	-	-
Hawaii	-	-	19	-	1	13	1	-	9	-	3	3	-	2	28
Guam	1	-	3	-	-	10	-	-	3	-	-	-	-	2	1
P.R.	3	-	18	-	-	46	2	4	20	1	6	3	-	58	19
V.I.	-	U	-	U	-	10	-	U	9	U	-	-	U	-	-
Pac. Trust Terr	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-
Amer. Samoa	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable I International S Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 7, 1986 and June 8, 1985 (23rd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- ræmia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	11,036	10,900	1	8,980	8,730	30	107	144	2,382
NEW ENGLAND	223	241	-	291	296	-	4	1	3
Maine	15	7	-	26	20	-	-	-	-
N.H.	7	5	-	7	11	-	-	-	-
Vt.	6	1	-	10	4	-	-	-	-
Mass	113	123	-	138	184	-	3	1	-
R.I.	13	7	-	19	21	-	-	-	1
Conn	69	98	-	91	56	-	1	-	2
MID ATLANTIC	1,637	1,498	-	1,778	1,619	-	11	1	183
Upstate N.Y.	79	109	-	265	266	-	1	1	30
N.Y. City	889	920	-	855	814	-	5	-	1
N.J.	298	317	-	341	192	-	4	-	6
Pa.	371	152	-	317	347	-	1	-	146
E.N. CENTRAL	467	517	-	1,113	1,081	-	8	25	53
Ohio	60	64	-	185	196	-	-	25	5
Ind.	52	50	-	121	134	-	-	-	9
Ill.	255	267	-	491	479	-	1	-	15
Mich.	73	110	-	263	214	-	5	-	9
Wis.	27	26	-	53	58	-	1	-	15
W.N. CENTRAL	112	111	1	255	228	8	5	9	385
Minn.	18	26	-	61	40	-	1	1	43
Iowa	6	14	-	22	33	1	-	-	81
Mo.	59	48	-	130	108	7	4	4	41
N. Dak.	2	1	-	4	2	-	-	-	95
S. Dak.	1	4	-	10	13	-	-	-	89
Nebr.	11	6	1	5	9	-	-	1	5
Kans.	15	12	-	23	23	-	-	3	31
S. ATLANTIC	3,052	2,714	-	1,744	1,796	4	14	53	556
Del.	20	17	-	19	17	-	-	-	-
Md.	196	183	-	131	163	1	4	5	306
D.C.	148	161	-	56	78	-	1	-	-
Va.	188	136	-	159	145	1	3	7	87
W. Va.	8	4	-	50	46	-	2	4	13
N.C.	213	294	-	234	224	1	2	16	3
S.C.	297	347	-	200	208	-	-	18	18
Ga.	383	-	-	261	296	1	-	3	72
Fla.	1,599	1,572	-	634	619	-	2	-	57
E.S. CENTRAL	748	930	-	798	802	3	1	20	139
Ky.	33	33	-	198	171	2	-	5	44
Tenn.	278	265	-	227	248	1	-	6	56
Ala.	246	297	-	263	257	-	-	2	39
Miss.	191	335	-	110	126	-	1	7	-
W.S. CENTRAL	2,339	2,729	-	1,089	911	12	6	30	382
Ark.	109	132	-	133	101	8	-	1	89
La.	386	468	-	186	147	1	-	-	10
Okla.	65	82	-	103	120	3	1	24	32
Tex.	1,779	2,047	-	647	543	-	5	5	251
MOUNTAIN	270	340	-	205	216	2	7	5	383
Mont.	3	2	-	10	29	-	1	2	136
Idaho	5	3	-	5	11	-	-	-	-
Wyo.	-	5	-	-	5	-	-	1	181
Colo.	78	83	-	10	29	-	1	2	-
N. Mex.	33	45	-	45	41	1	-	-	3
Ariz.	116	181	-	99	89	-	2	-	63
Utah	4	3	-	21	6	1	2	-	-
Nev.	31	18	-	15	6	-	1	-	-
PACIFIC	2,188	1,820	-	1,727	1,781	1	51	-	298
Wash.	48	59	-	91	98	-	2	-	-
Oreg.	46	41	-	60	66	-	-	-	-
Calif.	2,075	1,682	-	1,440	1,482	-	45	-	290
Alaska	-	1	-	27	56	1	1	-	8
Hawaii	19	37	-	109	79	-	3	-	-
Guam	1	2	-	30	20	-	-	-	-
P.R.	347	373	-	127	143	-	3	-	19
V.I.	-	1	U	1	1	-	-	-	-
Pac. Trust Terr.	112	40	-	21	29	-	27	-	-
Amer. Samoa	-	-	-	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
June 7, 1986 (23rd Week)

Reporting Area	All Causes, By Age (Years)						P&I ^{††} Total	Reporting Area	All Causes, By Age (Years)						P&I ^{††} Total
	All Ages	≥85	45-64	25-44	1-24	<1			All Ages	≥85	45-64	25-44	1-24	<1	
NEW ENGLAND	581	472	133	46	10	20	57	S ATLANTIC	1,234	748	285	108	47	45	64
Boston, Mass.	161	104	25	22	2	8	25	Atlanta, Ga.	156	84	43	16	9	4	4
Bridgeport, Conn.	55	41	12	2	-	-	4	Baltimore, Md.	177	119	34	9	7	8	6
Cambridge, Mass.	29	22	5	1	1	-	3	Charlotte, N.C.	78	48	18	6	3	3	6
Fall River, Mass.	34	28	4	1	-	1	2	Jacksonville, Fla.	108	80	19	1	3	5	6
Hartford, Conn.	66	38	21	5	1	1	4	Miami, Fla.	92	39	26	14	6	7	3
Lowell, Mass.	25	19	7	-	-	-	1	Norfolk, Va.	68	39	14	8	3	4	7
Lynn, Mass.	15	13	2	-	-	-	-	Richmond, Va.	92	56	24	4	4	4	11
New Bedford, Mass.	24	19	3	2	-	-	1	Savannah, Ga.	39	22	13	3	1	-	8
New Haven, Conn.	49	29	14	3	1	2	4	St. Petersburg, Fla.	117	96	15	3	1	2	10
Providence, R.I.	70	46	18	4	-	2	3	Tampa, Fla.	76	43	22	5	3	2	-
Somerville, Mass.	7	6	1	-	-	-	1	Washington, D.C.	197	100	51	35	7	4	5
Springfield, Mass.	41	32	4	1	2	2	4	Wilmington, Del.	34	22	6	4	-	2	1
Waterbury, Conn.	35	29	2	1	1	2	1								
Worcester, Mass.	69	46	15	4	2	2	4								
MID ATLANTIC	2,838	1,834	590	258	84	71	135	ES CENTRAL	769	505	171	54	23	18	38
Albany, N.Y.	42	24	13	5	-	-	-	Birmingham, Ala.	130	89	28	12	-	1	2
Allentown, Pa.	14	13	-	1	-	-	-	Chattanooga, Tenn.	58	37	13	6	1	1	9
Buffalo, N.Y.	88	67	11	4	1	4	9	Knoxville, Tenn.	87	60	19	5	3	-	5
Camden, N.J.	37	20	12	2	1	2	1	Louisville, Ky.	106	71	25	5	3	2	6
Elizabeth, N.J.	34	25	7	1	1	-	-	Memphis, Tenn.	184	108	35	11	7	3	9
Erie, Pa.	42	31	6	3	2	-	5	Mobile, Ala.	73	48	11	6	3	5	1
Jersey City, N.J.	44	22	12	6	1	3	1	Montgomery, Ala.	42	29	11	1	-	1	2
N.Y. City, N.Y.	1,425	915	278	157	42	36	58	Nashville, Tenn.	109	63	29	8	6	3	4
Newark, N.J.	52	40	23	14	5	10	3	WS CENTRAL	1,350	797	313	138	56	45	51
Patterson, N.J.	38	24	8	4	2	-	4	Austin, Tex.	82	40	13	5	3	1	3
Philadelphia, Pa.	495	324	113	32	16	10	25	Baton Rouge, La.	89	42	16	8	3	-	-
Pittsburgh, Pa.	62	43	11	4	3	1	-	Corpus Christi, Tex.	42	28	10	3	1	-	1
Reading, Pa.	33	18	12	2	1	-	3	Dallas, Tex.	225	125	44	32	8	18	7
Rochester, N.Y.	126	94	18	12	2	-	12	El Paso, Tex.	59	35	10	5	3	6	1
Schenectady, N.Y.	28	18	6	3	1	-	1	Fort Worth, Tex.	122	67	28	18	6	3	11
Scranton, Pa.	27	20	6	1	-	-	1	Houston, Tex.	242	138	73	19	8	4	6
Syracuse, N.Y.	86	49	25	6	5	2	7	Little Rock, Ark.	79	51	18	5	4	1	7
Trenton, N.J.	44	31	9	1	1	2	1	New Orleans, La.	146	88	33	15	7	3	2
Utica, N.Y.	29	22	7	-	-	-	4	San Antonio, Tex.	139	72	37	17	9	4	9
Yonkers, N.Y.	49	34	13	1	-	1	-	Shreveport, La.	65	42	14	3	-	6	-
								Tulsa, Okla.	100	69	17	8	4	1	5
EN CENTRAL	2,365	1,514	507	191	64	80	80	MOUNTAIN	748	458	144	61	42	43	29
Akron, Ohio	38	29	7	2	-	-	-	Albuquerque, N.Mex.	104	64	21	8	11	2	6
Canton, Ohio	32	20	8	2	-	2	4	Colorado Springs, Colo.	32	23	9	-	-	-	5
Chicago, Ill.	554	362	125	45	10	22	16	Denver, Colo.	139	70	32	12	7	18	5
Cincinnati, Ohio	143	99	30	4	4	6	10	Las Vegas, Nev.	103	65	24	5	6	3	3
Cleveland, Ohio	166	95	46	19	4	2	4	Ogden, Utah	27	20	2	3	1	1	1
Columbus, Ohio	133	70	34	16	6	7	-	Phoenix, Ariz.	183	94	34	22	7	6	-
Dayton, Ohio	136	78	34	13	6	5	3	Pueblo, Colo.	32	24	6	1	-	1	1
Detroit, Mich.	299	182	60	36	9	12	6	Salt Lake City, Utah	44	21	8	3	3	9	-
Evansville, Ind.	38	30	3	2	2	1	-	Tucson, Ariz.	104	77	8	9	7	3	8
Fort Wayne, Ind.	46	32	9	3	2	-	2								
Gary, Ind.	17	11	3	1	1	1	2	PACIFIC	2,014	1,302	431	157	78	35	125
Grand Rapids, Mich.	47	36	6	2	2	1	7	Berkeley, Calif.	14	12	1	1	-	-	-
Indianapolis, Ind.	197	117	43	15	8	14	1	Fresno, Calif.	78	53	15	3	5	2	8
Madison, Wis.	39	29	5	2	-	3	3	Glendale, Calif.	20	16	3	1	-	-	-
Milwaukee, Wis.	146	92	35	13	2	4	5	Honolulu, Hawaii	55	39	12	3	1	-	4
Peoria, Ill.	57	40	10	2	3	2	7	Long Beach, Calif.	89	49	28	6	2	4	12
Rockford, Ill.	49	38	4	5	-	2	1	Los Angeles, Calif.	659	416	127	71	31	6	21
South Bend, Ind.	37	27	6	2	2	-	4	Oakland, Calif.	82	40	15	3	-	4	4
Toledo, Ohio	116	82	22	5	3	4	2	Pasadena, Calif.	32	24	6	1	-	1	2
Youngstown, Ohio	65	45	17	2	-	1	3	Portland, Ore.	128	89	21	9	6	3	7
WN CENTRAL	750	513	148	43	24	21	30	Sacramento, Calif.	137	86	33	11	4	3	13
Des Moines, Iowa	50	33	10	3	1	2	1	San Diego, Calif.	140	86	33	10	6	4	16
Duluth, Minn.	34	26	5	2	-	-	3	San Francisco, Calif.	144	90	34	15	4	1	6
Kansas City, Kans.	39	23	6	6	2	2	2	San Jose, Calif.	159	102	38	11	5	2	15
Kansas City, Mo.	110	77	22	7	3	1	5	Seattle, Wash.	169	116	35	8	9	1	7
Lincoln, Nebr.	33	25	6	-	2	-	4	Spokane, Wash.	77	46	20	2	4	2	7
Minneapolis, Minn.	97	58	22	11	3	3	4	Tacoma, Wash.	51	36	10	2	1	2	3
Omaha, Nebr.	94	61	24	5	4	-	-								
St. Louis, Mo.	145	104	23	5	8	7	4	TOTAL	12,749	8,143	2,722	1,056	428	385	609
St. Paul, Minn.	58	42	12	1	1	2	2								
Wichita, Kans.	90	64	17	3	2	4	5								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

^{††} Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

*HTLV-III/LAV — Continued**References*

1. Curran JW, Evatt BL, Lawrence DN. Acquired immune deficiency syndrome: the past as prologue. *Ann Intern Med* 1983;98:401-2.
2. Favero MS. Recommended precautions for patients undergoing hemodialysis who have AIDS or non-A, non-B hepatitis. *Infect Control* 1985;6:301-5.
3. Peterman TA, Lang GR, Mikos NJ, et al. HTLV-III/LAV infection in hemodialysis patients. *JAMA* 1986;255:2324-6.
4. CDC. Summary: recommendations for preventing transmission of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus in the workplace. *MMWR* 1985;34:681.
5. Favero MS. Dialysis-associated diseases and their control. In: Bennett JV, Brachman PS, eds. *Hospital infections*. Boston: Little, Brown and Company, Inc., 1985:267-84.
6. CDC. Hepatitis—control measures for hepatitis B in dialysis centers. *Viral hepatitis*. Atlanta, Georgia: Center for Disease Control, 1977: HEW publication no. (CDC)78-8358 (Investigation and control series, November 1977).
7. CDC. Hepatitis surveillance report no. 49. Issued January 1985:3-4.
8. Garner JS, Simmons BP. CDC guideline for isolation precautions in hospitals. *Infect Control* 1983;5:245-325.
9. CDC. Update: Public Health Service workshop on human T-lymphotropic virus type III antibody testing—United States. *MMWR* 1985;34:477-8.

*Epidemiologic Notes and Reports***Gastroenteritis Outbreaks on Two Caribbean Cruise Ships**

Three outbreaks of gastroenteritis occurred on two Caribbean cruise ships between April 26, and May 10, 1986. More than 1,200 persons developed gastrointestinal illness; no deaths were reported. At least one of the outbreaks appears to be associated with Norwalk virus.

Two outbreaks occurred on two consecutive 1-week cruises of the *Holiday*, a Carnival Cruise Line ship. Between April 26 and May 3, a total of 392 (25%) of 1,550 passengers and 30 (4%) of 679 crew who completed questionnaires developed gastroenteritis. Eighty-six percent had diarrhea; 62%, vomiting; 36%, headache; and 26%, subjective symptoms of fever. The outbreak peaked on the fifth and sixth days of the cruise. On the next voyage, from May 3 to May 10, a second outbreak occurred on the *Holiday* in which 321 (22%) of 1,470 passengers and 48 (7%) of 658 crew developed gastroenteritis. A sanitation inspection initiated by CDC on May 3 revealed deficiencies related to water chlorination record-keeping, food preparation and holding, and potential contamination of food. A detailed account of these deficiencies was provided to the ship's management at the end of the investigation on May 3, and recommendations were made to prohibit food-service personnel from working while ill and to correct the sanitation deficiencies. A week later, when the inspection was completed, several deficiencies similar to those of the previous week were noted. The final vessel sanitation inspection score on May 10 was 18 out of a possible 100 points (passing = 85).

An outbreak of gastroenteritis also occurred on Holland America Cruises' *Rotterdam*. Between May 3 and May 10, 405 (37%) of 1,108 passengers and 35 (6%) of 554 crew who completed questionnaires had a gastrointestinal illness. Eighty percent of ill passengers had diarrhea; 78%, vomiting; 41%, headache; and 32%, subjective symptoms of fever. Mean duration of illness was 2.4 days, and 76% of ill passengers were confined to their cabins during the illness. A sanitation inspection by CDC on May 9 and May 10 revealed numerous deficiencies

Gastroenteritis — Continued

related to food and water sanitation; the sanitation inspection score was 16 out of a possible 100 points. A detailed account of the deficiencies was presented to the ship's management on May 10 following the inspection, and recommendations were made to prohibit food service personnel from working while ill and to correct the sanitation deficiencies.

Bacterial cultures of stool specimens from the first *Holiday* outbreak did not yield any recognized pathogens. However, an eightfold or greater rise in antibodies to Norwalk virus was demonstrated by biotin-avidin immunoassay (1) in paired sera obtained from three ill *Holiday* crew members who had suffered gastroenteritis during the April 26-May 3 voyage; Norwalk antigen was detected by biotin-avidin immunoassay in two of six ill passengers from the same voyage. Laboratory studies of specimens and epidemiologic analysis of questionnaires from ill passengers and crew from all three outbreaks are continuing.

Reported by Div of Quarantine, Center for Prevention Svcs, Enteric Diseases Br, Div of Bacterial Diseases, Respiratory and Enterovirus Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Outbreaks of gastrointestinal illness on cruise vessels have been caused in the past by contaminated water and by food consumed on the ships or on shore visits (2). Person-to-person transmission has also been strongly suspected on some occasions—in one case, in the setting of repeated outbreaks on consecutive cruises (3).

Laboratory findings implicated Norwalk virus as the pathogenic agent on the first of the *Holiday* outbreaks. However, all three outbreaks had epidemiologic features characteristic of epidemics of Norwalk virus gastroenteritis. These include: (1) a high attack rate in adults; (2) a high frequency of vomiting; (3) short duration of illness; and (4) absence of identified bacterial pathogens (4).

It is not yet clear whether food or water were vehicles of infection in these outbreaks or whether sanitary deficiencies contributed to the risk of outbreaks of viral enteric disease on these cruise ships.

References

1. Gary GW, Kaplan JE, Stine SE, Anderson LJ. Detection of Norwalk virus antibodies and antigen with a biotin-avidin immunoassay. *J Clin Microbiol* 1985;22:274-8.
2. Merson MH, Hughes JM, Wood BT, Yashuk JC, Wells JG. Gastrointestinal illness on passenger cruise ships. *JAMA* 1975;231:723-7.
3. Gunn AG, Terranova WA, Greenberg HB, et al. Norwalk virus gastroenteritis aboard a cruise ship: an outbreak on five consecutive cruises. *Am J Epidemiol* 1986;112:820-7.
4. Kaplan JE, Gary GW, Baron RC, et al. Epidemiology of Norwalk gastroenteritis and the role of Norwalk virus in outbreaks of acute, non-bacterial gastroenteritis. *Ann Int Med* 1982;96:756-61.

*International Notes***Rapid Nutritional Status Evaluation During Drought Conditions — Republic of Niger**

During the 1984 summer growing season, Niger experienced a severe drought. National food production was estimated to be 44% of that in 1983 (1). In response to the drought, the Government of Niger (GON) and the U.S. Agency for International Development (USAID) invited CDC to participate in a nutritional status assessment. Using previously developed CDC nutrition survey methodology, survey sites were chosen randomly in each of the seven departments of Niger. Between December 1984 and February 1985, 3,264 children between 65

Nutritional Status Evaluation — Continued

and 110 cm tall (approximately 6-59 months of age) were surveyed. A standardized questionnaire was used to record height, weight, arm circumference, measles vaccination status, recent illness, clinical evidence of vitamin A and C deficiencies, and food aid status for each child.

Few children in any of the departments were less than 70% of median weight-for-height (2) (Table 2). The overall prevalence of children less than 80% of median weight-for-height ranged from 9.8% in Diffa to 13.7% in Maradi. Rates of children with possible borderline nutritional status (80%-85% of median weight-for-height) were higher (12.9% in Zinder to 19.0% in Agadez) than expected rates in the United States (3%-7%), depending on age. Measles vaccination levels ranged from 32.8% in Tahoua to 56.2% in Maradi. Reported diarrhea rates in the 2 weeks before the survey ranged from 16.4% in Niamey to 40.3% in Agadez. Eye signs suggestive of vitamin A deficiency were found in 2.1% of the children in one department and in smaller numbers in three other departments. Widely varying percentages of families reported receiving food aid in the past year.

While the small sample size limits the conclusions that can be drawn from disaggregated data, nutritional status appeared to vary by type of settlement. Groups of displaced women and children who had spontaneously gathered in urban centers and who were not receiving organized nutritional support were more severely affected than families who remained in their rural villages and families who had been relocated to off-season garden sites* where food aid was being distributed.

*Sites where families are relocated during the dry season to cultivate small vegetable gardens.

TABLE 2. Nutrition status and other health indicators of children 6-59 months of age — Niger, 1984-1985

Characteristic	Department						
	Agadez	Diffa	Dosso	Maradi	Niamey	Tahoua	Zinder
Sample size	457	443	424	477	483	470	510
Percent of median weight-for-height							
< 70%	1.8%	0.5%	2.1%	1.1%	0.6%	1.1%	1.8%
70-79%	11.4%	9.3%	8.0%	12.6%	11.2%	10.4%	10.4%
80-84%	19.0%	18.7%	14.4%	15.7%	14.9%	14.3%	12.9%
Total < 80%	13.2%	9.8%	10.1%	13.7%	11.8%	11.5%	12.2%
Total < 85%	32.2%	28.5%	24.5%	29.4%	26.7%	25.8%	25.1%
Diarrhea in past 2 weeks	40.3%	24.4%	32.3%	19.5%	16.4%	32.8%	38.0%
Vaccinated against measles	53.0%	42.2%	46.2%	56.2%	46.4%	32.8%	43.1%
Received food aid in past year	66.1%	62.3%	25.5%	40.9%	53.2%	17.5%	17.7%

Nutritional Status Evaluation — Continued

Recommendations to the GON emphasized identification and emergency support of displaced women and children, as well as implementation of basic nutrition and health activities at the off-season garden sites and in the rural villages. Because of the logistic difficulties with continuing weight-for-height measurements on a population basis, nutritional status surveillance by arm circumference measurement was recommended.

Reported by the Government of the Republic of Niger; US Agency for International Development, Niger; Office of Foreign Disaster Assistance, US Agency for International Development, Washington DC; Div of Nutrition, Center for Health Promotion and Education, International Health Program Office, CDC.

Editorial Note: During the past decade, CDC epidemiologists have participated in a number of rapid nutrition evaluations in sub-Saharan Africa. These surveys provide population-based data that can be used in decision-making during emergent situations.

Because of the long lead time necessary to arrange effective international food aid, it is particularly important for national governments and relief agencies to be able to estimate the population at risk before food supplies are exhausted. Such data collection is thus most useful for planning purposes if done shortly after poor harvests. The data collected in these and similar surveys can be used to estimate both the number of currently undernourished children and the number of those children whose weight-for-height status (i.e., 80%-85% of median) suggests that they are at greatest risk of becoming acutely undernourished as the local food supplies are exhausted before the next harvest. These latter children, although not yet acutely undernourished, are also logical candidates for inclusion in supplementary feeding programs.

The widely varying rates of recent diarrhea (range 16.4%-40.3%) may in part be explained by the survey design; such characteristics tend to cluster by geographic area. However, prolonged or recurrent diarrhea may be responsible for precipitating severe undernutrition among children already in marginal nutritional status (3).

Rates of clinical signs of vitamin A deficiency in one province exceeded the criteria suggested by the World Health Organization as indicating the need for large-scale distribution of vitamin A capsules (4). Lower rates in other departments may indicate that vitamin A deficiency is a less severe problem in these areas or may simply reflect sampling variability due to the unavoidably limited sample sizes, which are not specifically calculated to detect conditions as infrequent as clinical vitamin A deficiency. Thus, these lower rates must be interpreted with some caution. Because rapid nutritional status evaluations cannot be expected to provide reliable estimates of vitamin A, large-scale prophylaxis with 200,000 I.U. capsules (3) is probably warranted if relief foods are not known to contain sufficient quantities of vitamin A.

The proportion of families receiving food aid also varied considerably by cluster. Most food aid was received by families in off-season garden sites, while few families who lived in sedentary villages or who camped around urban areas had yet received aid. Plans were made to establish mechanisms for delivery of food aid to families not already settled in off-season garden sites, with highest priority to be given to families already displaced by famine.

References

1. CDC. Unpublished data.
2. National Center for Health Statistics. NCHS growth curves for children, birth-18 years, United States. Rockville, Maryland: National Center for Health Statistics, 1977; DHEW publication no. (PHS) 78-1650. (Vital and health statistics; series 11, no. 165).
3. Black RE, Merson MH, Eusof A, Huq I, Pollard R. Nutritional status, body size and severity of diarrhoea associated with rotavirus or enterotoxigenic *Escherichia coli*. *J Trop Med Hyg* 1984;87:83-9.
4. de Ville de Goyet C, Seaman J, Geijer U. The management of nutritional emergencies in large populations. Geneva: World Health Organization, 1978:18.

*Epidemiologic Notes and Reports***Salmonellosis Outbreaks Associated with Commercial Frozen Pasta —
Massachusetts, New Jersey, New York**

Outbreaks of *Salmonella* group D infections in New York, New Jersey, and Massachusetts have been associated with frozen pasta foods made by Rotanelli Foods, Inc. of New Rochelle, New York. *S. enteritidis* (group D) and *S. heidelberg* (group B) have been isolated from implicated products. These products are distributed to restaurants, caterers, institutions, and retail stores throughout the United States. A voluntary recall has begun. Questions about product distribution should be referred to the U.S. Food and Drug Administration District Offices. Associated outbreaks should be reported to the appropriate state health department and to Enteric Diseases Branch, Division of Bacterial Diseases, Center for Infectious Diseases, CDC.

Reported by GF Grady, MD, State Epidemiologist, Massachusetts Dept of Public Health; WE Parkin, DVM, New Jersey State Dept of Health; DL Morse, MD, New York State Dept of Health; Div of Emergency and Epidemiological Operations, US Food and Drug Administration; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

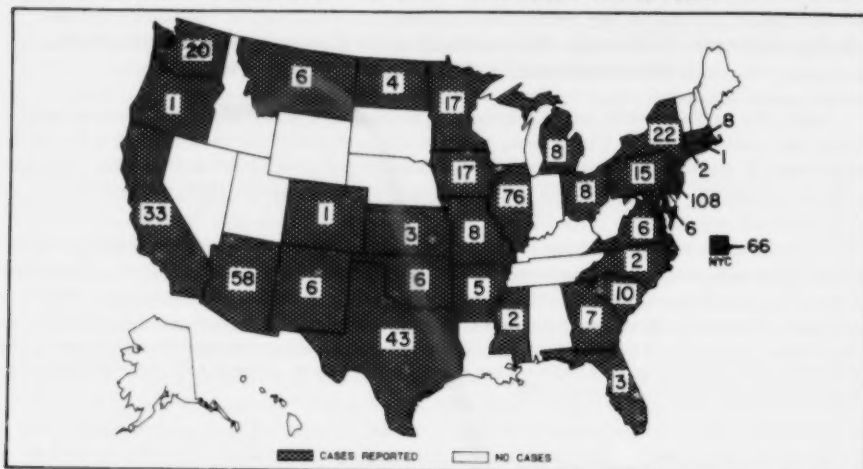
Errata: Vol. 35, No. 22

- p. 366. In the article, "Measles — United States, 1985," the first entry in Table 7 (page 369) under Causes of nonpreventability should be: Persons < 16 mos. of age.

Vol. 35, No. 21

- p. 341. In the article, "Arboviral Infections of the Central Nervous System — United States, 1985," two corrections to Figure 2 (page 343) should be noted: (1) Colorado should be black; (2) the correct legend for the black-toned states is $\geq 0.1/100,000$.

FIGURE 1. Reported measles cases — United States, weeks 19-22, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/40007 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **



- 399 Transfusion-Associated HTLV-III/LAV from a Seronegative Donor — Colorado
- 391 Non-A, Non-B Hepatitis Associated with a Factor IX Complex Infused during Cardiovascular Surgery — Arizona
- 399 Occupational Exposures to Formaldehyde in Dialysis Units
- 402 Genital Herpes Infection — United States, 1966-1984

MORBIDITY AND MORTALITY WEEKLY REPORT

JUL 9 1986

**Transfusion-Associated Human T-Lymphotropic Virus Type III/
Lymphadenopathy-Associated Virus Infection
From a Seronegative Donor — Colorado**

In November 1985, a blood donor at a Colorado blood-collection center was found to be seropositive for human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV)* antibody by both the enzyme-linked immunosorbent assay (ELISA) and Western blot methods. He had previously donated at the center in April and August 1985, when he had been seronegative by ELISA. Both recipients from the August donation, one of whom had no other risk factors for acquisition of HTLV-III/LAV, were subsequently found to be seropositive. Both recipients of the April donation were seronegative. The donor had probably been infected through sexual contact 12 weeks or less before the August donation. This is the first reported transmission of infection from a blood donor that has occurred despite routine screening for HTLV-III/LAV antibody in blood banks and plasma centers.

Details of the donor and recipient investigation are as follows:

Donor. The donor was a 31-year-old man who had donated blood at the same center in April, August, and November 1985. He was seronegative in April (optical densities of Abbott ELISA on sample/control = 0.052/0.160) and August (0.034/0.142), but seropositive by ELISA (0.926/0.173) and Western blot in November. His blood from the November donation was discarded, and physicians of the recipients from the August donation were notified by the blood center of the possible transmission of HTLV-III/LAV from these blood products.

When interviewed in April 1986, the donor stated that he had had sexual contact with one male partner, with the first exposure taking place on May 15, 1985. No condoms were used. His only other sexual partner was a man in 1974. He denied intravenous (IV) drug use or history of blood transfusion. He had no history of acute viral illnesses or symptoms of acquired immunodeficiency syndrome (AIDS) or AIDS-related complex (ARC) in 1985 or 1986. Physical examination in December 1985 was normal. Repeat ELISA testing in April 1986 revealed a high absorbency value (> 2.000/0.125), and Western blot was once again positive. Attempts at locating previous sera for antibody testing were unsuccessful.

Donor's Partner. The donor's sexual partner was a 22-year-old man who corroborated the donor's history of their initial sexual contact on May 15, 1985. He had been homosexually active since 18 years of age. He denied IV drug abuse or history of blood transfusion. After notification by the donor of his positive antibody status, the partner was tested for HTLV-III/LAV in November 1985 and was seropositive by ELISA and Western blot; these findings

*The Human Retrovirus Subcommittee of the International Committee on the Taxonomy of Viruses has proposed the name human immunodeficiency virus (HIV) for this virus. (Science 1986;232:697)

520.7009:

HTLV-III/LAV — Continued

were reconfirmed on a separate specimen in April 1986. He had not previously been tested for HTLV-III/LAV antibody.

Recipient 1. Recipient 1 was a 60-year-old man who underwent surgery in August 1985. He received from 15 different donors six units of packed red blood cells, four units of fresh frozen plasma, and six units of platelets (including one unit from the previously described donor). He had been married for 30 years and denied extramarital sexual contact, either heterosexual or homosexual, or any previous blood transfusions or IV drug abuse. In February 1986, he had no symptoms of AIDS or ARC and had a normal physical examination. The HTLV-III/LAV antibody test was positive by ELISA and Western blot and reconfirmed on a separate specimen in March 1986. His wife was seronegative for HTLV-III/LAV antibody in April 1986.

Recipient 2. Recipient 2 was a 57-year-old man who underwent surgery in August 1985. He received two units of platelet-poor whole blood (including one unit from the previously described donor) and one unit of packed red blood cells. During the postoperative period, he had unexplained fever and diarrhea that persisted for 6 weeks and was associated with a 20-pound weight loss. Stool specimens were negative for bacterial pathogens and ova and parasites, including cryptosporidia. In October 1985, he was tested for HTLV-III/LAV antibody for reasons unrelated to the blood transfusion and was positive by ELISA and Western blot, which was confirmed on a separate specimen in April 1986. He had been divorced for 12 years and was strictly homosexual since that time, with multiple partners.

Other investigative findings. The blood donated in April 1985 was given to two recipients, and both were seronegative by ELISA when tested in May 1986.

One other person was a common donor to recipients 1 and 2 in August 1985. This person was retested in April 1986 and was negative by ELISA for HTLV-III/LAV antibody. Of the 13 remaining donors to recipient 1, 11 were seronegative when retested 5 months or more after the August donations. Two donors reside outside Colorado and have not been retested. Of the two remaining donors to recipient 2, both were seronegative when retested 6 months or more after the August donations.

Reported by CA Raevsky, DL Cohn, MD, FC Wolf, MPA, FN Judson, MD, Colorado Dept of Health, Denver Disease Control Svc, SW Ferguson PhD, State Epidemiologist, TM Vernon, MD, Executive Director, Colorado Dept of Health, AIDS Program, Center for Infectious Diseases, CDC.

Editorial Note: This is the first report of HTLV-III/LAV transmission from a person whose blood tested negative for HTLV-III/LAV antibody at the time of blood donation. As with previous reports that have documented the presence of the virus in a small number of persons who have no detectable antibody, this donor appears to have had a recent infection (1,2). Most infected people develop antibody within 2-3 months of infection (2-6).

The current risk of transfusion-associated infection is small. The prevalence of positive Western blot tests among units screened by the American Red Cross in early 1985 suggests that 0.04% of all donated units may have been potentially infectious (7). This prevalence declined to 0.02% in early 1986 (8). Currently available screening tests detect HTLV-III/LAV antibody in the great majority of infected persons. Since antibody may not be detectable in blood from donors with very recent infections, the safety of the blood supply also requires deferral of donation by persons at increased risk for HTLV-III/LAV infection.

Donor-deferral programs, initially implemented in blood banks in March 1983 and subsequently refined, provide all prospective donors with educational information on the practices associated with an increased risk of HTLV-III/LAV infection. Evidence suggests that most persons at increased risk have stopped donating blood (9-11), but a few such individuals continue to donate. The donor described in this report said he felt he was not at risk for infection because he had only one sexual partner. Although a steady sexual relationship with a single partner is generally safer with regard to HTLV-III/LAV infection than relationships with multi-

HTLV-III/LAV — Continued

ple sexual partners, men who have had sexual contact with another man since 1977 must not donate blood (12).

Efforts are continuing to assure maximum effectiveness of donor-deferral programs (13,14). As an example, blood collection agencies have agreed to implement procedures in which prospective donors are asked to sign an expanded consent statement. The statement indicates that the prospective donor has reviewed and understands the informational material provided and that donors who are at increased risk for transmission of HTLV-III/LAV or other infectious agents will not donate blood or plasma for transfusion to another person.

References

1. Salahuddin SZ, Groopman JE, Markham PD, et al. HTLV-III in symptom-free seronegative persons. *Lancet* 1984;ii:1418-20.
2. Ho DD, Sarngadharan MG, Resnick L, Dimarzo-Veronese F, Rota TR, Hirsch MS. Primary human T-lymphotropic virus type III infection. *Ann Intern Med* 1985;103:880-3.
3. Anonymous. Needlestick transmission of HTLV-III from a patient infected in Africa. *Lancet* 1984;ii:1376-7.
4. Tucker J, Ludlam CA, Craig A, et al. HTLV-III infection associated with glandular-fever-like illness in a haemophiliac. *Lancet* 1985;i:585.
5. Cooper DA, Gold J, Maclean P, et al. Acute AIDS retrovirus infection. *Lancet* 1985;i:537-40.
6. Esteban JI, Shih J W-K, Tai C-C, Bodner AJ, Kay JWD, Alter HJ. Importance of Western blot analysis in predicting infectivity of anti-HTLV-III/LAV positive blood. *Lancet* 1985;ii:1083-6.
7. Schorr JB, Berkowitz A, Cummings PD, Katz AJ, Sandler SG. Prevalence of HTLV-III antibody in American blood donors [Letter]. *N Engl J Med* 1985;313:384-5.
8. Sandler SG, American Red Cross. Personal communication.
9. Dahlke MB. Designated blood donations [Letter]. *N Engl J Med* 1984;310:1194.
10. Grindon A. Efficacy of voluntary self-deferral of donors at high risk of AIDS [Abstract]. *Transfusion* 1984;24:434.
11. Pindyck J, Waldman A, Zang E, Oleszko W, Lowy M, Bianco C. Measures to decrease the risk of acquired immunodeficiency syndrome transmission by blood transfusion. *Transfusion* 1985;25:3-9.
12. CDC. Update: revised Public Health Service definition of persons who should refrain from donating blood and plasma—United States. *MMWR* 1985;34:547-8.
13. Kalish RL, Cable RG, Roberts SC. Voluntary deferral of blood donations and HTLV-III antibody positivity [Letter]. *N Engl J Med* 1986;314:1115-6.
14. U.S. Public Health Service. Public Health Service plan for the prevention and control of AIDS and the AIDS virus. Report of the Coolfont Planning Conference, June 4 to 6, 1986. Washington, D.C.: U.S. Public Health Service, 1986.

Non-A, Non-B Hepatitis Associated with a Factor IX Complex Infused During Cardiovascular Surgery — Arizona

On June 14, 1985, the Division of Disease Control Services, Arizona Department of Health Services, was notified by infection-control personnel at a local hospital of 13 cases of non-A non-B hepatitis among patients who had undergone cardiovascular surgery at the hospital during the preceding 6 months. All the patients had received factor IX complex produced by Alpha Therapeutic Corporation (Brand B) because of bleeding during their surgery.

A systematic review of pharmacy records for 1984 and 1985 determined factor IX complex usage patterns. Between January 1, 1984, and June 3, 1985, 172 patients had received factor IX complex during cardiovascular surgery (81 Brand A; 90 Brand B; one Brand C). Brand B factor IX complex was added to the hospital pharmacy in October 1984.

Cases were identified through questionnaires distributed to all physicians involved with the care of three groups: the cohort of Brand A factor IX complex recipients who survived more than 2 weeks following surgery, the cohort of Brand B factor IX recipients who survived

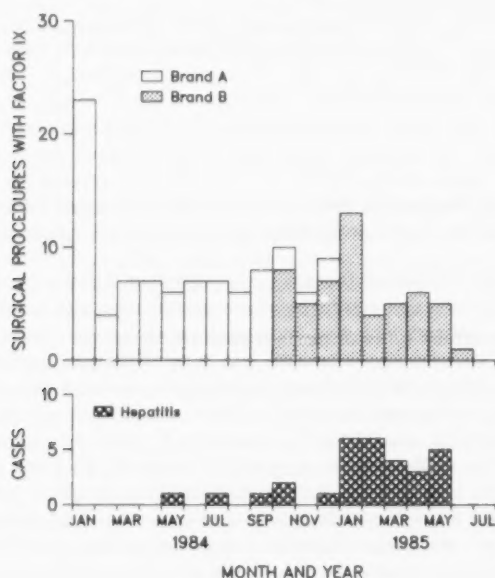
Non-A, Non-B Hepatitis — Continued

more than 2 weeks, and a sample from the cohort of 1,625 cardiovascular patients who received no factor IX complex during surgery and survived more than 2 weeks (matched to the Brand B group for age, sex, type of operation, and date of surgery within 1 month). Completed information was received for 55 (74%) of 74 Brand A factor IX complex recipients, 64 (85%) of 75 Brand B factor IX complex recipients, and 59 (79%) of 75 in the matched nonrecipient sample.

A case of postsurgical non-A, non-B hepatitis was defined as a patient who developed an illness with a discrete date of onset following surgery and characterized by: (1) jaundice and/or elevated serum aminotransferase (ALT) levels greater than 2½ times the upper limit of normal, lasting at least 1 week; (2) negative serologic tests for IgM hepatitis A virus antibody (anti-HAV) and hepatitis B surface antigen (HBsAg) during illness; (3) no evidence of underlying liver disease or recent history of hepatotoxic drugs in dosages likely to produce liver dysfunction. A probable case was defined as above, but with no or incomplete serologic testing for markers of viral hepatitis.

The investigation identified 23 cases and seven probable cases of non-A, non-B hepatitis; 27 were among Brand B factor IX complex recipients, and three were among Brand A factor IX recipients (Figure 1). The most commonly observed symptoms were: fatigue (85%), anorexia (81%), nausea and/or vomiting (59%), dark urine (52%), light stools (41%), and abdominal pains (37%); 19 (63%) were jaundiced, including 17 Brand B factor IX recipients and two Brand A factor IX recipients. Liver function tests showed median peak ALT of 801.5 IU (range 153-2,824) and bilirubin 5.3 mg/dl (range 0.4-22.9 mg/dl). Six (22%) patients required rehospitalization because of hepatitis-related symptoms; one patient died, with non-A, non-B hepatitis reported as a contributing cause of death. The incubation period for cases among

FIGURE 1. Cases and probable cases of postsurgical non-A, non-B hepatitis in factor IX concentrate recipients, by month and factor IX usage patterns in cardiovascular surgery patients — Arizona, January 1, 1984-June 3, 1985



Non-A, Non-B Hepatitis — Continued

Brand B factor IX complex recipients was a median of 7 weeks (range 2-17 weeks) from the date of transfusion to the onset of symptoms; for Brand A, the incubation period was a median of 15 weeks (range 1-19 weeks). Peak elevations in serum transaminases occurred a median of 9 weeks from the date of transfusion.

The attack rate for Brand B factor IX complex recipients was 42% (27/64), significantly higher than the 5% (3/55) attack rate for Brand A recipients (relative risk = 7.7, $p < 2 \times 10^{-5}$) or the 0% (0/59) in nonrecipients ($p < 1 \times 10^{-6}$). The difference in attack rates between Brand A factor IX complex recipients and nonrecipients was not statistically significant ($p > 0.05$).

The attack rate for Brand B recipients was about 40%, and that for nonrecipients of factor IX was 0%, irrespective of quantity of other blood products (Table 1). A similar comparison of Brand B to Brand A factor IX recipients showed no differences in receipt of other blood products; a stepwise multiple regression analysis of all factor IX recipients showed that receiving Brand B factor IX was the only risk factor significantly associated with hepatitis ($p < 0.0001$).

Units of Brand B factor IX complex given to surgery patients came from five different lots. Each lot was associated with cases and probable cases. Attack rates for single-lot recipients ranged from 14% to 100% (Table 2).

Reported by D Matthews, R Harmon, MD, Maricopa County Div of Public Health, SJ Englander, MD, LF Novick, MD, Director, GG Caldwell, MD, State Epidemiologist, Arizona Dept of Health Svcs; Div of Field Svcs, Epidemiology Program Office, Hepatitis Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

TABLE 1. Risk of non-A, non-B hepatitis in surgery patients, by receipt of factor IX and other blood products — Arizona, January 1984-June 1985.

Exposure	Factor IX Recipients				Nonrecipients	
	Brand A		Brand B		No.	Attack Rate
	No.	Attack Rate	No.	Attack Rate	No.	Attack Rate
All patients	55	5%	64	42%	59	0%
Packed red blood cells						
> 10 units	29	3%	33	36%	4	0%
< 10 units	26	8%	31	48%	55	0%
Fresh frozen plasma						
> 6 units	35	9%	33	42%	7	0%
< 6 units	20	0%	31	42%	52	0%
Platelets						
Yes	43	5%	52	44%	10	0%
No	12	8%	12	33%	49	0%

TABLE 2. Lot-specific attack rates of postsurgical non-A, non-B hepatitis for single-lot cardiovascular recipients of Brand B factor IX — Arizona, October 1984-June 1985.

Lot	Ill	Not ill	Attack rate
1	1	6	14%
2	2	3	40%
3	17	25	40%
4	2	1	67%
5	5	0	100%
Total	27	35	44%

Non-A, Non-B Hepatitis — Continued

Editorial Note: Clotting factor preparations have frequently been linked to the transmission of non-A, non-B hepatitis (1,2). These products are prepared from pooled plasma from multiple donors. Inoculation of nonheat-treated products into susceptible animals (chimpanzees) is associated with development of non-A, non-B hepatitis. In hemophilia patients who routinely receive commercial factor preparations, episodes of non-A, non-B hepatitis are common, and as many as 50% may develop signs of chronic liver disease, probably due to non-A, non-B infections. Studies in first-exposed hemophilia patients and in surgery patients who receive clotting factor preparations suggest the risk of non-A, non-B hepatitis in these patients may be close to 100% (3,4). Heat treatment of clotting factor products was initiated at about the time of the outbreak; however, none of the products used in this outbreak received heat treatment. While all factor IX complex and antihemophilic factor preparations are now treated to reduce the risk of viral disease transmission, the methods currently used do not appear to inactivate the causative agents of non-A, non-B hepatitis (5,6).

Non-A, non-B hepatitis in the United States is probably caused by at least two different viral agents (1,7). Because of difficulty in conclusively identifying the causative agents and developing serologic tests, it remains a diagnosis of exclusion. Epidemiologic studies indicate

(Continued on page 399)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	24th Week Ending			Cumulative, 24th Week Ending		
	June 14, 1986	June 15, 1985	Median 1981-1985	June 14, 1986	June 15, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	274	189	N	5,701	3,273	N
Aseptic meningitis	110	123	139	2,047	1,823	1,926
Encephalitis						
Primary (arthropod-borne & unspc)	16	17	20	339	420	419
Post-infectious	2	6	2	50	67	51
Gonorrhea	15,994	19,725	18,900	372,790	366,853	406,180
Civilian	243	370	450	7,149	8,649	11,108
Military	447	401	401	9,374	9,782	10,071
Hepatitis	565	584	515	11,582	11,434	10,723
Type A	70	88	N	1,577	1,882	N
Non A, Non B	78	117	139	2,213	2,524	3,358
Unspecified	4	27	N	238	310	N
Legionellosis	4	12	3	126	174	108
Leprosy	24	20	20	366	349	354
Malaria	148	230	60	3,522	1,615	1,615
Measles	143	220	N	3,340	1,354	N
Total*	5	10	N	182	261	N
Indigenous	52	30	49	1,404	1,329	1,590
Imported	52	30	49	1,402	1,324	1,575
Meningococcal infections	-	-	-	2	5	7
Total	184	59	85	2,003	1,824	2,000
Civilian	52	58	33	1,180	772	772
Military	34	11	29	277	265	638
Syphilis (Primary & Secondary)	445	449	566	11,423	11,349	13,764
Civilian	-	-	7	83	83	176
Military	6	3	N	160	178	N
Toxic Shock syndrome	457	475	507	9,441	9,211	10,317
Tuberculosis	4	4	6	34	67	80
Tularemia	2	4	7	110	134	151
Typhoid fever	30	18	43	175	177	222
Typhus fever tick-borne (RMSF)	80	89	144	2,467	2,339	2,878
Rabies, animal						

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	4	Leptospirosis	17
Botulism	22	Foodborne (Wyo 1)	-
Infant	1	Plague	-
Other	30	Poliomyelitis, Paralytic	-
Brucellosis	-	Psittacosis (Pa 1, Ohio 1, Md 1, Nev 2)	35
Cholera	2	Rabies, human	-
Congenital rubella syndrome	11	Tetanus (Kans 1, Tex 2)	20
Congenital syphilis, ages < 1 year	-	Trichinosis	14
Diphtheria	-	Typhus fever, flea-borne (endemic, munna)	10

*Four of the 148 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending June 14, 1986 and June 15, 1985 (24th Week)

Reporting Area	Malaria		Measles (Rubeola)			Meningococcal Infections		Mumps		Pertussis			Rubella		
			Indigenous		Imported *										
	Cum 1986	1986	Cum 1986	1986	Cum 1985	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	366	143	3,340	5	182	1,615	1,404	184	2,003	52	1,180	772	34	277	265
NEW ENGLAND	23	-	24	-	4	117	102	-	40	-	60	38	4	8	9
Maine	1	-	-	-	-	-	21	-	-	-	2	3	-	-	-
N.H.	1	-	-	-	-	-	5	-	10	-	23	20	-	1	2
Vt.	1	-	-	-	-	-	15	-	1	-	3	2	-	-	-
Mass.	11	-	21	-	3	110	19	-	3	-	16	5	4	4	6
R.I.	3	-	2	-	-	-	15	-	7	-	1	4	-	2	-
Conn.	6	-	1	-	1	7	27	-	19	-	15	4	-	1	1
MID ATLANTIC	42	54	1,169	1	20	145	216	3	103	-	100	70	-	27	76
Upstate N.Y.	11	4	27	18	19	67	70	3	38	-	67	37	-	19	11
N.Y. City	11	34	272	-	1	39	45	-	5	-	3	9	-	5	42
N.J.	7	15	850	-	-	16	29	-	29	-	7	2	-	3	11
Pa.	13	1	20	-	-	23	72	-	31	-	23	22	-	-	12
E.N. CENTRAL	16	2	509	-	12	410	185	159	1,170	12	179	104	-	13	20
Ohio	6	-	-	-	8	43	79	3	88	6	74	14	-	-	-
Ind.	-	-	-	-	-	1	17	-	21	3	22	11	-	-	-
Ill.	4	1	320	-	1	259	43	125	735	2	21	18	-	9	5
Mich.	6	1	15	-	-	52	44	31	186	1	21	14	-	3	14
Wis.	-	-	174	-	3	55	2	-	140	-	41	47	-	1	1
W.N. CENTRAL	11	16	171	-	16	9	74	1	66	1	66	61	1	8	16
Minn.	3	3	31	-	4	4	15	-	1	-	31	13	-	-	2
Iowa	1	8	25	-	1	-	10	-	13	-	9	3	1	1	-
Mo.	4	4	11	-	6	2	24	-	12	-	5	13	-	1	5
N. Dak.	-	-	11	-	1	2	-	-	2	-	2	6	-	-	2
S. Dak.	-	-	-	-	-	-	4	-	1	1	8	1	-	-	-
Nebr.	2	-	-	-	-	-	8	-	-	-	3	-	-	-	-
Kans.	1	1	93	-	4	1	13	1	37	-	11	22	-	6	7
S. ATLANTIC	49	6	384	-	50	173	275	6	122	9	418	171	1	9	30
Del.	-	-	1	-	-	-	1	-	3	216	-	-	-	-	1
Md.	9	-	19	-	8	29	35	1	10	4	68	72	-	-	1
D.C.	-	-	-	-	-	2	4	-	-	-	-	-	-	-	-
Va.	10	2	21	-	24	19	50	3	23	-	15	4	-	-	1
W. Va.	2	-	2	-	-	31	3	1	33	-	5	-	-	-	9
N.C.	4	-	1	-	1	3	45	-	11	-	18	8	-	-	-
S.C.	3	-	274	-	-	-	24	-	11	-	5	-	-	-	3
Ga.	5	4	54	-	14	8	43	-	12	2	74	55	-	-	-
Fla.	16	-	12	-	3	81	70	1	22	-	17	32	1	9	15
E.S. CENTRAL	7	-	3	-	-	1	82	-	18	1	21	6	-	1	1
Ky.	2	-	-	-	-	-	17	-	3	-	1	1	-	1	1
Tenn.	-	-	1	-	-	-	33	-	12	-	5	1	-	-	-
Ala.	3	-	-	-	-	-	22	-	2	1	15	2	-	-	-
Miss.	2	-	2	-	-	1	10	-	1	-	-	2	-	-	-
W.S. CENTRAL	31	4	494	1	30	194	114	6	130	6	92	122	4	52	21
Ark.	-	-	276	-	2	-	15	-	7	-	3	11	-	-	1
La.	4	-	1	-	-	18	16	-	2	1	5	5	-	-	-
Okla.	3	-	8	-	4	-	15	N	N	5	56	69	-	-	1
Tex.	24	4	209	1†	24	176	68	6	121	-	28	37	4	52	19
MOUNTAIN	12	23	255	-	21	433	68	3	181	6	117	35	7	15	4
Mont.	-	1	1	-	7	137	7	-	5	-	6	3	1	1	-
Idaho	1	-	1	-	-	103	1	-	3	1	27	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	3	-	2	-	4	6	10	-	9	4	36	10	1	1	-
N. Mex.	-	4	26	-	5	3	6	N	N	-	10	4	-	-	2
Ariz.	5	18	225	-	5	184	14	3	152	-	24	10	-	1	1
Utah	2	-	-	-	-	-	7	-	9	1	13	8	5	9	-
Nev.	1	-	-	-	-	-	21	-	3	-	-	-	-	3	-
PACIFIC	175	38	331	3	29	133	288	6	173	17	127	165	17	144	88
Wash.	14	10	70	3†	14	1	41	-	7	7	49	24	1	6	2
Oreg.	12	-	-	-	4	3	21	N	N	-	8	19	-	-	1
Calif.	149	28	242	-	10	115	216	5	152	9	65	110	16	136	55
Alaska	-	-	-	-	-	-	9	1	5	1	2	9	-	-	1
Hawaii	-	-	19	-	1	14	1	-	9	-	3	3	-	2	29
Guam	1	-	3	-	-	10	-	1	4	-	-	-	-	2	1
P.R.	4	-	18	-	-	46	2	-	20	1	7	4	-	58	19
V.I.	-	-	-	-	-	10	-	1	10	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-
Amer Samoa	-	U	2	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations

N Notifiable U Unavailable † International ‡ Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 14, 1986 and June 15, 1985 (24th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	Cum 1986	Cum 1986	Cum 1986	Cum 1986
UNITED STATES	11,423	11,349	6	9,441	9,211	34	110	175	2,467
NEW ENGLAND	231	254	2	309	311	-	4	1	3
Maine	15	7	1	26	22	-	-	-	-
N.H.	7	5	-	9	14	-	-	-	-
Vt.	6	2	-	10	4	-	-	-	-
Mass.	119	131	1	143	188	-	3	1	-
R.I.	13	7	-	21	27	-	-	-	1
Conn.	71	102	-	100	56	-	1	-	2
MID ATLANTIC	1,052	1,078	2	1,070	1,702	-	12	3	184
Upstate N.Y.	84	112	-	271	279	-	1	1	31
N.Y. City	933	973	-	929	964	-	5	-	-
N.J.	313	331	2	343	197	-	5	1	7
Pa.	322	162	-	327	362	-	1	1	146
E.N. CENTRAL	483	524	-	1,158	1,123	-	8	32	54
Ohio	64	65	-	191	208	-	1	32	5
Ind.	58	51	-	131	138	-	-	-	9
Ill.	260	267	-	517	496	-	1	-	15
Mich.	74	114	-	263	222	-	5	-	9
Wis.	27	27	-	56	59	-	1	-	16
W.N. CENTRAL	116	115	-	271	237	8	5	12	397
Minn.	18	27	-	68	41	-	1	1	43
Iowa	6	14	-	23	36	1	-	-	88
Mo.	63	51	-	138	112	7	4	4	42
N. Dak.	2	1	-	4	2	-	-	-	97
S. Dak.	1	4	-	10	13	-	-	1	89
Nebr.	11	6	-	5	9	-	-	3	7
Kans.	15	12	-	23	24	-	-	3	31
S. ATLANTIC	3,170	2,813	1	1,834	1,928	4	14	68	583
Del.	21	17	-	21	17	-	-	-	-
Md.	196	189	-	135	183	1	4	7	321
D.C.	151	175	1	65	80	-	1	-	-
Va.	193	144	-	161	173	1	3	14	91
W. Va.	9	4	-	53	48	-	2	4	13
N.C.	229	314	-	240	235	1	2	18	3
S.C.	299	347	-	221	231	-	-	22	20
Ge.	383	-	-	273	309	1	-	3	78
Fla.	1,689	1,623	-	665	652	-	2	-	57
E.S. CENTRAL	774	957	-	844	863	3	1	23	141
Ky.	35	33	-	212	183	2	-	5	46
Tenn.	290	284	-	243	268	1	-	9	56
Ala.	258	305	-	278	272	-	-	3	39
Miss.	191	335	-	111	140	-	1	7	-
W.S. CENTRAL	2,433	2,827	-	1,152	937	16	7	30	400
Ark.	120	143	-	150	110	10	-	1	95
La.	405	485	-	186	158	1	-	-	11
Okla.	66	82	-	110	126	4	1	24	34
Tex.	1,842	2,117	-	706	543	1	6	5	260
MOUNTAIN	277	390	1	211	222	2	7	6	392
Mont.	4	2	-	10	29	-	1	3	138
Idaho	5	3	-	6	11	-	-	-	-
Wyo.	-	6	-	-	5	-	-	1	187
Colo.	79	87	1	10	29	-	1	2	-
N. Mex.	33	45	-	46	42	1	-	-	3
Ariz.	119	196	-	103	94	-	2	-	64
Utah	6	3	-	21	6	1	2	-	-
Nev.	31	18	-	15	6	-	1	-	-
PACIFIC	2,287	1,931	-	1,792	1,888	1	52	-	313
Wash.	52	61	-	96	103	-	2	-	2
Oreg.	50	42	-	63	69	-	-	-	-
Calif.	2,165	1,789	-	1,496	1,577	-	46	-	303
Alaska	-	1	-	27	56	1	-	-	8
Hawaii	20	38	-	110	83	-	3	-	-
Guam	1	2	-	30	21	-	-	-	-
P.R.	382	387	-	127	164	-	3	-	19
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	132	40	-	24	29	-	35	-	-
Amer. Samoa	-	-	U	3	-	-	-	-	-

U Unavailable

§ Data not available. Figures are estimates based on average of past 4 weeks.

Non-A, Non-B Hepatitis — Continued

that percutaneous or bloodborne transmission routes predominate, with 20% of affected persons acquiring infection by blood transfusion, and 15%, by percutaneous drug abuse. Furthermore, non-A, non-B hepatitis now causes 80%-90% of the post-transfusion hepatitis observed in this country. Previously, outbreaks have been described in hemodialysis units (8) and plasmapheresis programs (9).

Non-A, non-B hepatitis associated with clotting factor preparations has been reported to be variable in clinical presentation, usually clinically milder with less icterus than other types of non-A, non-B hepatitis (10). The reasons for the severity of illnesses reported in this outbreak are not known. However, it could be due to either a different viral agent contaminating the clotting factor complex than that in previously reported outbreaks, to higher doses of the infectious organism, or to host-factor differences. The reasons for significantly different risks of illness associated with the products of different commercial manufacturers is also not known but possibly relates to differences in manufacturing processes or to differences in the donor pool that contributed to the respective products.

Because of the high risk of viral hepatitis, recommended use of clotting factor products has been limited to persons with known clotting factor deficiencies. In other settings, single-donor products carry a lower risk and are preferable. At least two outbreaks of non-A, non-B hepatitis have now been reported in surgery patients treated with clotting factor preparations (4). Prevention of non-A, non-B hepatitis in this population clearly depends on physicians adhering to strict indications for the use of clotting factor preparations and avoiding these products when at all possible.

References

1. Craske J, Spooner RJD, Vandervelde EM. Evidence for existence of at least two types of factor-VIII-associated non-B transfusion hepatitis. *Lancet* 1978;II:1051-2.
2. Enck RE, Betts RF, Brown MR, Miller G. Viral serology (hepatitis B virus, cytomegalovirus, Epstein-Barr virus) and abnormal liver function tests in transfused patients with hereditary hemorrhagic diseases. *Transfusion* 1979;19:32-8.
3. Fletcher ML, Trowell JM, Craske J, Pavier K, Rizza CR. Non-A non-B hepatitis after transfusion of factor VIII in infrequently treated patients. *Br Med J* 1983;287:1754-7.
4. Sugg U, Schnaidt M, Schneider W, Lissner R. Clotting factors and non-A, non-B hepatitis. *N Eng J Med* 1980;303:943.
5. Colombo M, Mannucci PM, Carnelli V, Savidge GF, Gazengel C, Schimpf K. Transmission of non-A, non-B hepatitis by heat treated factor VIII concentrate. *Lancet* 1985;II:1-4.
6. Preston FE, Hay CRM, Dewar MS, Greaves M, Triger DR. Non-A, non-B hepatitis and heat-treated factor VIII concentrates [Letter]. *Lancet* 1985;II:213.
7. Bradley DW, Maynard JE, Popper H, et al. Posttransfusion non-A, non-B hepatitis: physicochemical properties of two distinct agents. *J Infect Dis* 1983;148:254-65.
8. Galbraith RM, Dienstag JL, Purcell RH, Gower PH, Zuckerman AJ, Williams R. Non-A, non-B hepatitis associated with chronic liver disease in a haemodialysis unit. *Lancet* 1979;I:951-3.
9. Guyer B, Bradley DW, Bryan JA, Maynard JE. Non-A, non-B hepatitis among participants in a plasmapheresis stimulation program. *J Infect Dis* 1979;139:634-40.
10. Craske J, Dilling N, Stern D. An outbreak of hepatitis associated with intravenous injection of factor VIII concentrate. *Lancet* 1975;II:221-3.

Occupational Exposures to Formaldehyde in Dialysis Units

A company in Illinois that operates three dialysis centers became concerned about the occupational exposure of its employees to formaldehyde. Formaldehyde is used as a chemical germicide to control bacterial contamination in water distribution systems and in the dialysis fluid pathways of artificial kidney machines. In addition, formaldehyde is used to disinfect hollow-fiber dialyzers (artificial kidneys) that are reprocessed and reused only by the same patient.

Formaldehyde — Continued

The company requested an investigation by the National Institute for Occupational Safety and Health (NIOSH) to determine the extent of employee exposure to formaldehyde.

Investigators from NIOSH conducted an initial environmental survey of the facilities in April 1982 and a follow-up environmental survey in June 1982. In the areas used to reprocess dialyzers, they collected air samples to analyze for formaldehyde in the personal breathing zones of workers. The results showed that workers at two of the three facilities involved were exposed to formaldehyde concentrations of 0.50 and 0.57 parts per million (ppm), respectively, as a time-weighted average (TWA) (1). The current Occupational Safety and Health Administration standard establishes a permissible exposure of 3 ppm, 8-hour TWA; NIOSH recommends minimizing workplace exposure levels and limiting exposure to the lowest feasible level (2,3).

Based on NIOSH recommendations, the company modified the system used to deliver formaldehyde by incorporating an automatic metering system so that the operation did not have to be performed manually. In addition, the company changed work practices to include capping storage containers, running water continuously during the disinfection operation, and educating employees about the adverse health effects of formaldehyde. In a follow-up environmental survey, conducted in December 1982 after these changes were instituted, NIOSH found that TWA concentrations of formaldehyde at all three facilities had fallen below the limit of detection (5 µg/sample, about 0.34 ppm based on a 12-liter air sample).

NIOSH has also documented significant occupational exposures to formaldehyde in recent studies at several other dialysis units (4-7). Studies at hospitals in San Francisco and Honolulu showed airborne concentrations of formaldehyde as high as 0.9 ppm and 1.3 ppm, respectively. Employees in the dialysis units of both hospitals were experiencing cough, headache, and eye, nose, and throat irritation. These symptoms are consistent with the effects of exposure to formaldehyde vapor. In Denver, Colorado, another evaluation at a dialysis unit showed levels of formaldehyde ranging as high as 1.6 ppm (6). The two highest levels were found in the room where dialyzers were being reprocessed and disinfected with formaldehyde. At this evaluation, work practice was changed so that water was run continuously into the sink whenever the formaldehyde in a hemodialyzer was drained into that sink. This served to flush formaldehyde down the drain and lowered its airborne levels.

Reported by Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Nearly 80,000 patients in the United States undergo maintenance dialysis at approximately 1,400 facilities licensed by the Health Care Financing Administration. About 80% of these dialysis centers use formaldehyde to disinfect hemodialysis systems that include treated water distribution systems, dialysis fluid proportioning systems, and artificial kidney machines. In 1983, over 50% of these dialysis centers reused the disposal hollowfiber dialyzers, and approximately 90% used formaldehyde to disinfect hemodialyzers during the reprocessing procedure (8). Consequently, the potential for environmental exposure of dialysis-center employees and dialysis patients to formaldehyde is relatively high.

Formaldehyde has a sharp odor that is noticeable at very low levels (less than 1 ppm). At formaldehyde concentrations ranging from 0.1 to 5 ppm, the first signs or symptoms of exposure are burning of the eyes, tearing (lacrimation), and general irritation to the upper respiratory passages (9). Higher exposures (10-20 ppm) may produce coughing, tightness in the chest, a sense of pressure in the head, and cardiac palpitation (10,11). In one report, inhalation provocation tests showed that hypersensitivity to the formaldehyde used to disinfect artificial kidney machines was responsible for attacks of wheezing accompanied by productive cough in two of 28 members of the nursing staff in a hemodialysis unit. Three other members of the same staff who were continuously exposed to this substance occupationally had devel-

Formaldehyde - Continued

oped similar recurrent but less frequent episodes since joining the unit (12). Dermatitis has also been reported among workers exposed to formaldehyde or to resins that contain formaldehyde (13).

To minimize exposure to formaldehyde in dialysis units, CDC recommends the following:

1. Employees working in dialysis units should be fully informed about the adverse health effects of formaldehyde and should wear proper protective equipment whenever handling concentrated formaldehyde or preparing dilute formaldehyde solutions. (Protective equipment should include rubber gloves, protective aprons, and eye and face protection.)
2. Hoses connecting free-standing modular components of hemodialysis systems to drain lines should be air tight to prevent formaldehyde vapors from escaping into treatment rooms.
3. Employees should spend as little time as possible in areas where hemodialyzers are reprocessed. Water should be kept running continuously in the sinks when the hemodialyzers are being reprocessed to help reduce exposure to formaldehyde.

Based on recent animal studies, which show that formaldehyde induces a rare form of nasal cancer (14-16), as well as epidemiologic investigations that indicate excess cancer rates in formaldehyde-exposed workers, CDC recommends that formaldehyde in the workplace be handled as an occupational carcinogen. As a prudent public health measure, engineering controls and stringent work practices should be employed to reduce occupational exposure to the lowest possible limit.

References

1. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 82-205-1314. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1983.
2. Occupational Safety and Health Administration. OSHA safety and health standards. Washington, D.C.: Occupational Safety and Health Administration, 1980 (revised). (29 CFR 1910.1000).
3. CDC. NIOSH recommendations for occupational safety and health standards. MMWR 1985;34(1 suppl):17S.
4. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 82-303-1271. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1983.
5. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 81-211-984. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1982.
6. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 82-084-1147. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1982.
7. National Institute for Occupational Safety and Health. Walk-through survey report of the dialysis unit, Christ Hospital, Cincinnati, Ohio. Report no. 125-18. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1982.
8. Bland L, Alter M, Favero M, Carson L, Cusik L. Hemodialyzer reuse: practices in the United States and implication for infection control. Trans Am Soc Artificial Intern Organs 1985;31:556-8.
9. National Institute for Occupational Safety and Health. Formaldehyde: evidence of carcinogenicity. Cincinnati, Ohio: National Institute for Occupational Safety and Health, April 15, 1981. NIOSH Current Intelligence Bulletin 34. DHEW publication no. (NIOSH) 81-111.
10. Loomis TA. Formaldehyde toxicity. Arch Pathol Lab Med 1975;103:321-4.
11. Kerfoot EJ, Mooney TF. Formaldehyde and paraformaldehyde study in funeral homes. Am Indust Hyg Assoc J 1975;36:533-7.
12. Hendrick DJ, Lane DJ. Occupational formalin asthma. Br J Indust Med 1977;34:11-8.
13. Proctor NH, Hughes JP. Chemical hazards of the workplace. Philadelphia: JB Lippencott, 1978.
14. Chemical Industry Institute of Toxicology. Statement concerning research findings. Docket No. 11109. Research Triangle Park, North Carolina: Chemical Industry Institute of Toxicology. October 8, 1979.
15. Albert RE, Sellakumar AR, Laskin S, Kuschner M, Nelson M, Snyder CA. Nasal cancer in the rat induced by gaseous formaldehyde and hydrogen chloride. J Natl Cancer Inst 1982;68:597-603.
16. Swenberg JA, Kerns WD, Mitchell RI, Gralla EJ, Pavkov KL. Induction of squamous cell carcinomas of the rat nasal cavity by inhalation exposure to formaldehyde vapor. Cancer Res 1980;40:3398-402.

Genital Herpes Infection — United States, 1966-1984

Genital herpes infection remains a major public health problem in the United States. Data collected by the National Disease and Therapeutic Index (NDTI) from 1966 to 1981 showed marked increases in the numbers of patient consultations for genital herpes (1,2). Current analysis shows continued upward trends in symptomatic genital herpes infections among private patients in the United States.

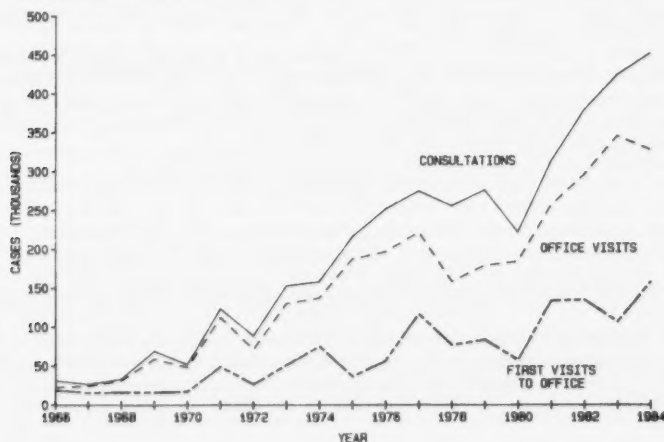
The NDTI survey is a national stratified random sample of data from private practitioners' office-based practices in the contiguous United States (3). This survey is a continuing compilation of statistical information about patterns and treatments of various diseases and represents a sample of patient-physician interactions. Included in the data coded are: (1) "consultations" about genital herpes between patients and physicians, including office visits, house calls, telephone calls, and hospital visits; (2) "office visits," referring to initial or repeat visits for genital herpes; and (3) "first office visits," coded if the patient presents to a physician participating in the survey for the first time with genital herpes. No laboratory confirmation of the physicians' diagnoses is included in the survey.

The estimated number of physician-patient consultations for genital herpes increased 15-fold between 1966 and 1984, from 29,560 to 450,570 (Figure 2). Office visits accounted for 79% of these consultations. Also, first office visits—a more likely indicator of newly acquired infection—increased nearly ninefold, from 17,810 in 1966 to 156,720 in 1984. Although a decline in consultations, office visits, and first office visits was evident from 1978 to 1980, the upward trends remain statistically significant for all three types of physician-patient interaction ($p < 0.004$).

The number of first office visits for genital herpes was approximately the same for both men and women. However, over the 19-year span, women made more total office visits for genital herpes than did men. In each of three time periods—1966-1972, 1973-1978, and 1979-1984—the number of consultations increased for men and women in each age group, except for men 40-44 years of age (Figure 3). Adults 20-29 years of age continued to account for the largest proportion of consultations in all age groups in each period.

Genital herpes infections increased uniformly in all regions of the country. The specialists most likely to see patients with genital herpes over the 19-year span were obstetricians-

FIGURE 2. Consultations, office visits, and first visits to office for genital herpes — United States, 1966-1984



Genital Herpes Infection — Continued

gynecologists (36% of total), general practitioners (19%), dermatologists (13%), internists (12%), and urologists (5%). Office visits to all other types of specialists accounted for the remaining 15%.

Reported by Div of Sexually Transmitted Diseases, Center for Prevention Svcs. CDC.

Editorial Note: The trends in symptomatic genital herpes infection reported here are comparable to data reported from a population-based study in Rochester, Minnesota, where investigators found a consistent annual increase in the incidence of genital herpes from 1965 to 1979 (4). The Rochester study also showed a similar age distribution for patients with symptomatic genital herpes infections, as in this report.

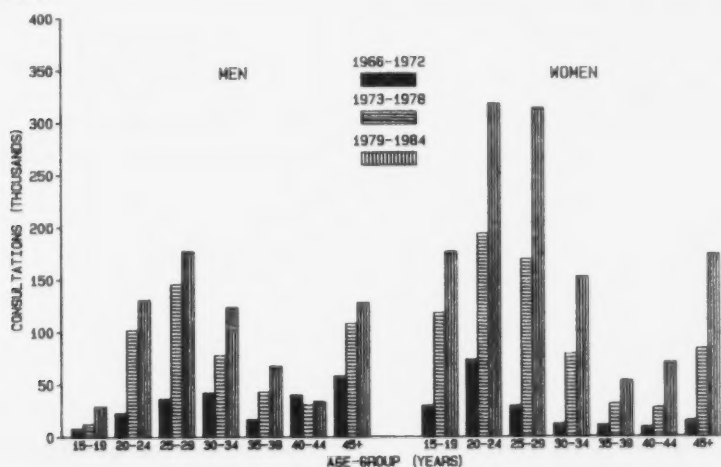
These data do not show the actual number of genital herpes cases in the United States. Patients with genital herpes may seek care in public health-care facilities and from other private ambulatory-care providers. Therefore, the total number of visits are minimum estimates. However, the data are useful in describing trends in health-care seeking for genital herpes by private patients over the 19-year period.

At least five other factors may have affected the trends in genital herpes measured by the NDTI:

1. Recent media attention—especially since 1982—may have increased both physicians' and patients' awareness of the signs and symptoms of genital herpes, thus increasing the numbers of patients seen in recent years.
2. A patient seen by a surveyed physician for the first time for genital herpes may not actually represent a newly diagnosed case.
3. Asymptomatic infections are increasingly recognized to be common and would not be represented in the survey (5,6).
4. Many of those with symptomatic genital herpes may not seek medical attention at all.
5. The licensing of topical acyclovir by the U.S. Food and Drug Administration in 1982 for treatment of genital herpes may account for some increase in numbers of patients seen in the most recent years of this survey.

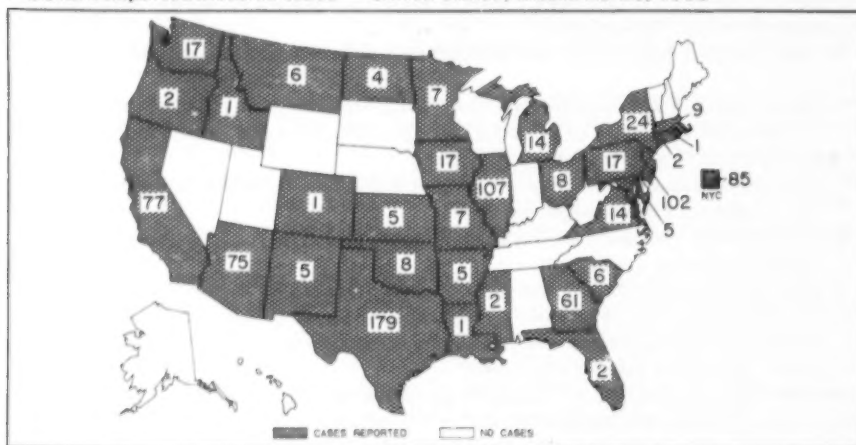
Despite these caveats, upward trends of genital herpes among private patients probably reflect a true increase in the numbers of cases of this sexually transmitted disease nationwide.

FIGURE 3. Consultations for genital herpes, by age group and sex — United States, 1966-1984



*Genital Herpes — Continued**References*

1. CDC. Genital herpes infection—United States, 1966-1979. MMWR 1982;31:137-9.
2. Becker TM, Blount JH, Guinan ME. Genital herpes infections in private practice in the United States, 1966 to 1981. JAMA 1985;253:1601-3.
3. Coding manual and descriptive information for the national disease and therapeutic index diagnosis volume. Rockville, Maryland: IMS America Ltd., 1984.
4. Chuang TY, Su WPD, Perry HO, Ilstrup DM, Kurland LT. Incidence and trend of herpes progenitalis: a 15-year population study. Mayo Clin Proc 1983;58:436-41.
5. Mertz GJ, Schmidt O, Jourden JL, et al. Frequency of acquisition of first-episode genital infection with herpes simplex virus from symptomatic and asymptomatic source contacts. Sex Transm Dis 1985;12:33-9.
6. Rooney JF, Felser JM, Ostrove JM, Straus SE. Acquisition of genital herpes from an asymptomatic sexual partner. N Engl J Med 1986;314:1561-4.

FIGURE 1. Reported measles cases — United States, weeks 20-23, 1986

U.S. Government Printing Office: 1986-746-149/40008 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **
**

35/25

CENTERS FOR DISEASE CONTROL

June 27, 1986 / Vol. 35 / No. 25

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 405 *Acanthamoeba* Keratitis Associated with Contact Lenses — United States
 408 *Bacillus cereus* — Maine
 415 The Secretary's Community Health Promotion Awards
 417 Bacteremia Associated with Reuse of Disposable Hollow-Fiber Hemodialyzers
 419 First National Conference on Chronic Disease Prevention and Control

Epidemiologic Notes and Reports***Acanthamoeba* Keratitis Associated with Contact Lenses — United States**

Twenty-four patients with *Acanthamoeba* keratitis have been reported to CDC from 14 states in the last 9 months (Table 1). Although onset of illness for some patients dates to as early as 1982, most had onset of illness in 1985 or 1986. In two patients, the infected eye was enucleated; 12 patients underwent corneal transplantation.

Twenty (83%) of the patients wore contact lenses. Of these, two wore hard lenses (one hard, the other rigid gas-permeable); four wore extended-wear soft lenses; and 14 wore daily-wear soft lenses. Ten of these 20 patients cleaned their lenses with home-made saline solution prepared by mixing salt tablets with bottled, distilled, nonsterile water; four used commercially available lens-cleaning solutions followed by a tap water rinse; one used commercial bottled saline; and one cleaned lenses with tap water pumped from a private well. No lens-care information was available for four patients.

Twenty-two (90%) of the 24 patients were initially diagnosed as having corneal herpes simplex virus (HSV) infections; in the other two patients, corneal lesions were attributed to autoimmune disease. *Acanthamoeba* keratitis was diagnosed by examination of stained corneal scrapings or tissues (67%) and/or tissue indirect fluorescent antibody (IFA) test (52%) using species-specific antisera. *Acanthamoebae* were isolated from the corneal scrapings/biopsies of 17 (71%) of the patients. Three of the 17 patients' lens cases containing home-made saline solution were also cultured; all were positive for *Acanthamoeba*. Contact lens cases from other patients were not cultured. Patients' ages ranged from 17 years to 55 years; half were females. The right eye was affected in 13 (54%) patients and the left eye, in 11. *A. castellanii* was identified from nine (38%); *A. polyphaga*, from eight (33%); *A. rhysodes*, from four (17%); *A. culbertsoni*, from three (13%); and *A. hatchetti*, from one (4%). The species of *Acanthamoeba* was not determined for six (25%) patients. More than one species of *Acanthamoeba* was cultured from samples from four patients.

Reported by C Newton, MD, Louisville, Kentucky; WT Driebe, Jr, MD, University of Florida, Gainesville; LR Groden, MD, G Genvert, MD, JH Brensen, PhD, University of South Florida, Tampa; AD Proia, MD, GK Clintworth, MD, M Cobo, MD, D Klein, PhD, Duke University Medical Center, Durham; P Morton, MD, Raleigh, North Carolina Dept of Human Resources; T Wolf, MD, University of Oklahoma, Oklahoma City; DB Jones, MD, RL Font, MD, M Osata, PhD, Baylor College of Medicine, Houston; MC Kincaid, University Health Science Center at San Antonio; MB Moore, MD, R Silvary, University of Texas Health Science Center at Dallas, Texas; RJ Epstein, MD, LA Wilson, MD, Emory University, Atlanta, Georgia; RA Miller, MD, P Gardner, MD, RC Tripathi, MD, DF Sahm, PhD, University of Chicago, Illinois; JS Wolfson, MD, S Foster, MD, MA Waldrom, Massachusetts General Hospital and Harvard University, Boston; CF Bahn, MD, Naval Hospital, Dept of the Navy, Bethesda, Maryland; G Rao, MD, FS Nolte, PhD, University of

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:

Acanthamoeba Keratitis — Continued

TABLE 1. *Acanthamoeba* keratitis — United States

Patient	Age	Sex	Affected eye*	State of residence	Probable month of onset	Contact lens association†		Diagnostic method		Species of <i>Acanthamoeba</i> **
						Lens‡	Cleaner§	Culture	Tissue IFA¶	
1	17	F	R	Ga.	11/85	RGPL	HMS	+	+	A.c
2	23	F	L	Fla.	04/85	DWSL	?	+	+	A.r
3††v	23	F	R	Tex.	01/86	None	NA	+	ND	Asp
4	28	F	R	Md.	06/85	EWSL	CLC, TWR	+	+	A.p
5	31	F	R	Tex.	06/84	DWSL	HMS	+	ND	A.p, Asp
6	32	F	R	N.C.	04/85	DWSL	HMS	+	+	A.r, A.p
7v	33	F	R	N.J.	08/85	DWSL	HMS	§§	+	A.p
8	38	F	R	Ky.	09/85	HL	CLC, TWR	△	ND	Asp
9	38	F	L	N.C.	12/85	DWSL	BS	ND	+	A.c
10	38	F	L	Ca.	1982	DWSL	?	ND	+	A.cu
11	44	F	R	Okla.	08/85	DWSL	WW	ND	+	A.c
12	55	F	L	Minn.	12/85	DWSL	HMS, PHS	§§	ND	A.c
13	17	M	L	N.C.	01/86	EWSL/U	HMS	+	+	A.c
14	20	M	R	Fla.	08/85	DWSL	HMS	+	ND	Asp
15	22	M	L	La.	05/85	DWSL	HMS, PHS	+	+	A.p, A.h
16	25	M	R	Tex.	08/84	DWSL	HMS	+	+	A.c
17	28	M	L	Ill.	07/83	DWSL	?	+	+	A.c, A.r, A.p
18	38	M	R	Ca.	Unknown	DWSL	?	ND	+	A.cu
19	44	M	L	Fla.	01/86	EWSL	CLC, TWR	+	ND	A.cu
20vC	41	M	L	Tex.	06/85	None	NA	+	+	A.r
21v	45	M	R	Tex.	06/85	None	NA	ND	+	A.c
22	45	M	L	Tex.	07/85	DWSL	CLC, TWR	+	+	A.p
23	47	M	L	N.Y.	09/85	EWSL	HMS	+	ND	A.c
24C	51	M	R	Mass.	08/84	None	NA	+	?	A.p

*R = right eye; L = left eye.

†DWSL = daily-wear soft lens; EWSL = extended-wear soft lens; HL = hard lens; RGPL = rigid gas-permeable lens; /U = used on a daily basis.

§§S = bottled saline; CLC = commercial lens cleaner; HMS = home-made saline; NA = not applicable; PHS = periodic heat sterilization; TWR = tap water rinse; WW = well water; ? = no information.

¶IFA = indirect fluorescent antibody; ND = not done; + = positive; - = negative.

**A.c = *A. castellanii*; A.cu = *A. culbertsoni*; A.h = *A. hatchetti*; A.p = *A. polyphaga*; A.r = *A. rhyodes*; Asp = *Acanthamoeba* sp.

††v = corneal trauma; C = enucleated.

§§Cultured from contact lens case; △ = corneal scraping positive for cysts.

Acanthamoeba Keratitis — Continued

Rochester Medical Center, Rochester, New York; C Parlato, MD, JC Davis, PhD, Mountainside Hospital, Montclair, New Jersey; E Cohen, MD, Wills Eye Hospital and Thomas Jefferson University, Philadelphia, Pennsylvania; MJ Mannis, MD, CE Thirkill, PhD, University of California, Davis; Protozoal Disease Br, Div of Parasitic Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Members of the genus *Acanthamoeba* are the most common free-living amoebae in fresh water and soil. They have been isolated from brackish and sea water, air-borne dust, and hot tubs. *Acanthamoebae* have also been recovered from the nose and throat of humans with impaired respiratory function and from apparently healthy persons, suggesting that these organisms are commonly inhaled (1). It is, therefore, not surprising that *acanthamoebae* may contaminate contact lenses or lens-cleaning/soaking fluids.

The first case of *Acanthamoeba* keratitis in the United States was reported in 1973 in a South Texas rancher with a history of trauma to his right eye (1). *A. polyphaga* was repeatedly cultured from his cornea, and both trophozoite and cyst forms of the organism were demonstrated in the corneal sections. Since then, 31 patients have been diagnosed in the United States (excluding those reported here). Nineteen of these 31 cases have been published (2-12); seven occurred before 1981; four occurred in 1981; one, in 1982; five, in 1983; and two, in 1984. The 24 *Acanthamoeba* keratitis cases described here represent a striking increase over those reported in previous years. A similar increase has been observed in the use of contact lenses during the past 5 years, from 14.5 million in 1980 to 23.1 million in 1985 (13).

Review of the 19 published cases indicates that nearly all infections were preceded by some degree of ocular trauma and/or exposure to contaminated water. Only recently has it been suggested that wearing contact lenses or using contaminated lens-cleaning/soaking solution may predispose the wearer to developing *Acanthamoeba* keratitis (10). Although information on contact lens use was not specified in all the published reports, at least 13 of the 19 patients were known users, and in the present report, 20 (83%) of 24 patients wore contact lenses.

Acanthamoebae are resistant to killing by freezing, dessication, a variety of antimicrobial agents, and levels of chlorine that are routinely used to disinfect municipal drinking water, swimming pools, and hot tubs (14). Recent studies indicate that *thermal* disinfection systems for contact lenses are superior to cold chemical disinfection in preventing the growth of *Acanthamoeba* (15). Although 10 of the 20 patients who wore contact lenses used home-made saline cleaning solutions, it is not known how many of them heat-sterilized the solutions before use.

Since the clinical characteristics of *Acanthamoeba* keratitis, especially the irregular epithelial lesions, the stromal infiltrative keratitis, and edema seen in most patients may resemble HSV keratitis, many patients are initially diagnosed and treated for this infection. Until recently, the correct diagnosis was made only after detailed histologic examination of corneal tissue removed at the time of transplantation. The following clinical features are suggestive of *Acanthamoeba* keratitis: (1) severe ocular pain; (2) a characteristic 360-degree or partial paracentral stromal ring infiltrate; (3) recurrent corneal epithelial breakdown; and (4) a corneal lesion refractory to the usual medications. The diagnosis can be confirmed by vigorously scraping the cornea with a swab or platinum-tipped spatula, staining the material obtained with Giemsa or trichrome stain, and examining it at 400X with a standard light microscope. In addition, some of the corneal scrapings should be cultured on non-nutrient agar seeded with *Escherichia coli* (1).

Medical management of *Acanthamoeba* keratitis is complicated by the resistance of these organisms to most of the commonly used antibacterial, antifungal, antiprotozoal, and antiviral

Acanthamoeba Keratitis — Continued

agents. Although some patients have recently been treated successfully using ketoconazole, miconazole, and propamidine isethionate (Brolene[®]), penetrating keratoplasty usually has been necessary to recover useful vision (5, 7-11). Further studies are needed to better estimate the true risk of infection, to improve diagnostic and treatment methods, and to evaluate the ability of different lens cleaning/soaking solutions to prevent growth of *Acanthamoeba*.

References

1. Visvesvara GS. Free-living pathogenic amoebae. In: Lennette EH, Balows A, Hausler WJ Jr, Truant JP, eds. *Manual of Clinical Microbiology*, 3rd edition. 1980:704-8.
2. Jones DB, Visvesvara GS, Robinson NM. *Acanthamoeba polyphaga* keratitis and *Acanthamoeba* uveitis associated with fatal meningoencephalitis. *Trans Ophthalmol Soc UK* 1975;95:221-32.
3. Key SN, III, Green WR, Willaert E, Stevens AR, Key SN, Jr. Keratitis due to *Acanthamoeba castellanii*: a clinicopathologic case report. *Arch Ophthalmol* 1980;98:475-9.
4. Ma P, Willaert E, Juechter KB, Stevens AR. A case of keratitis due to *Acanthamoeba* in New York, New York, and features of 10 cases. *J Infect Dis* 1981;143:662-7.
5. Hirst LW, Green WR, Merz W, et al. Management of *Acanthamoeba* keratitis. A case report and review of the literature. *Ophthalmology* 1984;91:1105-11.
6. Blackman HJ, Rao NA, Lemp MA, Visvesvara GS. *Acanthamoeba* keratitis successfully treated with penetrating keratoplasty: suggested immunogenic mechanisms of action. *Cornea* 1984;3:125-30.
7. Samples JR, Binder PS, Luibel FJ, Font RL, Visvesvara GS, Peter CR. *Acanthamoeba* keratitis possibly acquired from a hot tub. *Arch Ophthalmol* 1984;102:707-10.
8. Scully RE, Mark EJ, McNealy BN, et al. Case 10-1985. *N Engl J Med* 1985;312:634-41.
9. Cohen EJ, Buchanan HW, Laughrea P, et al. Diagnosis and management of *Acanthamoeba* keratitis. *Am J Ophthalmol* 1985;100:389-95.
10. Moore MB, McCulley JP, Luckenbach M, et al. *Acanthamoeba* keratitis associated with soft contact lenses. *Am J Ophthalmol* 1985;100:396-403.
11. Theodore FH, Jakobiec FA, Juechter KB, et al. The diagnostic value of a ring infiltrate in acanthamoebic keratitis. *Ophthalmology* 1985;92:1471-9.
12. Naab T, Bican F, McMahon J, Meisler DM, Rutherford I, Langston RHS. Chronic ulcerative keratitis caused by *Acanthamoeba polyphaga* [Abstract]. St. Louis, Missouri: American Society of Microbiology, 1984:289.
13. Ormerod LD, Smith, RE. Contact lens-associated microbial keratitis. *Arch Ophthalmol* 1986;104:79-83.
14. DeJonckheere J, van de Voorde H. Differences in destruction of cysts of pathogenic and nonpathogenic *Naegleria* and *Acanthamoeba* by chlorine. *Appl Environ Microbiol* 1976;31:294-7.
15. Ludwig IH, Meisler DM, Rutherford I, Bican FE, Langston RH, Visvesvara GS. Susceptibility of *Acanthamoeba* to soft contact lens disinfection systems. *Invest Ophthalmol Vis Sci* 1986;27:176-8.

*Use of trade names is for identification only and does not imply endorsement by the U.S. Public Health Service.

***Bacillus cereus* — Maine**

On September 22, 1985, the Maine Bureau of Health was notified of a gastrointestinal illness among patrons of a Japanese restaurant. Because the customers were exhibiting symptoms of illness while still on the restaurant premises, and because uncertainty existed as to the etiology of the problem, the local health department, in concurrence with the restaurant owner, closed the restaurant at 7:30 p.m. that same day.

Eleven (31%) of the approximately 36 patrons reportedly served on the evening of September 22 were contacted in an effort to determine the etiology of the outbreak. Those 11 comprised the last three dining parties served on September 22. Despite extensive publicity, no additional cases were reported.

Bacillus cereus — Continued

A case was defined as anyone who had vomiting or diarrhea within 6 hours of dining at the restaurant. All 11 individuals were interviewed for symptoms, time of onset of illness, illness duration, and foods ingested. All 11 reported nausea and vomiting; nine reported diarrhea; one reported headache; and one reported abdominal cramps. Onset of illness ranged from 30 minutes to 5 hours (mean 1 hour, 23 minutes) after eating at the restaurant. Duration of illness ranged from 5 hours to several days, except for two individuals still symptomatic with diarrhea 2 weeks after dining at the restaurant. Ten persons sought medical treatment at local emergency rooms on September 22; two ultimately required hospitalization for rehydration.

Analysis of the association of food consumption with illness was not instructive, since all persons consumed the same food items: chicken soup; fried shrimp; stir-fried rice; fried zucchini, onions, and bean sprouts; cucumber, cabbage, and lettuce salad; ginger salad dressing; hibachi chicken and steak; and tea. Five persons ordered hibachi scallops, and one person ordered hibachi swordfish. However, most individuals sampled each other's entrees.

One vomitus specimen and two stool specimens from three separate individuals yielded an overgrowth of *Bacillus cereus* organisms. The hibachi steak was also culture-positive for *B. cereus*, although an accurate bacterial count could not be made because an inadequate amount of the steak remained for laboratory analysis. No growth of *B. cereus* was reported from the fried rice, mixed fried vegetables, or hibachi chicken.

According to the owner, all meat was delivered 2-3 times a week from a local meat supplier and refrigerated until ordered by restaurant patrons. Appropriate-sized portions for a dining group were taken from the kitchen to the dining area and diced or sliced, then sauteed at the table directly in front of restaurant patrons. The meat was seasoned with soy sauce, salt, and white pepper, open containers of which had been used for at least 2 months by the restaurant. The hibachi steak was served immediately after cooking.

The fried rice served with the meal was reportedly customarily made from leftover boiled rice. It could not be established whether the boiled rice had been stored refrigerated or at room temperature.

Reported by J Vandeloski, Portland City Health Dept, KF Gensheimer, MD, State Epidemiologist, Maine Dept of Human Svcs; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: *B. cereus* is an anaerobic, spore-forming, gram-positive rod with a ubiquitous distribution in the environment. Spores of *B. cereus* have been found in a wide variety of cereals, pulses, vegetables, spices, and pasteurized fresh and powdered milk. Food-poisoning can result from toxins elaborated by germinating organisms, which most commonly follows from inadequate refrigeration and subsequent reheating of foods that have already been cooked.

Two different clinical syndromes appear to be associated with *B. cereus* food poisoning, which correspond to two different toxins elaborated by the bacteria. A diarrheal syndrome similar to *Campylobacter perfringens* food poisoning with an average incubation period of 10-12 hours has been associated with a heat-labile toxin elaborated by *B. cereus*. An emetic syndrome similar to staphylococcal food poisoning, with an average incubation period of 1-6 hours, has been associated with a heat-stable toxin from *B. cereus* (1).

The emetic syndrome has almost always been associated with fried rice served in Oriental restaurants. The common practice of storing boiled rice at room temperature for subsequent preparation of fried rice has generally been implicated in such outbreaks. However, a recent, well-documented outbreak of the emetic syndrome of *B. cereus* in a British prison implicated beef stew (2). This was thought to be caused by adding to the stew vegetables that were cooked a day earlier.

Bacillus cereus — Continued

Fresh meat cooked rapidly, then eaten immediately, seems an unlikely vehicle for *B. cereus* food poisoning. The laboratory finding of *B. cereus* in a foodstuff without quantitative cultures and without accompanying epidemiologic data is insufficient to establish its role in the outbreak. A negative culture of fried rice eaten with the meal does not exclude the obvious vehicle; reheating during preparation may eliminate the bacteria in the food without decreasing the activity of the heat-stable toxin. While the question of the specific vehicle remains incompletely resolved, the clinical and laboratory findings substantially support *B. cereus* as the cause of the outbreak.

Most episodes of food poisoning undoubtedly go unreported, and in most of those reported, the specific pathogens are never identified. Alert recognition of the clinical syndrome and appropriate laboratory work permitted identification of the role of *B. cereus* in this outbreak.

References

1. Terranova W, Blake PA. *Bacillus cereus* food poisoning. N Engl J Med 1978;298:143-4.
2. CDC. Communicable disease report, no. 21, May 25, 1984:3.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	25th Week Ending			Cumulative, 25th Week Ending		
	June 21, 1986	June 22, 1985	Median 1981-1985	June 21, 1986	June 22, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	190	246	N	5,891	3,518	N
Septic meningitis	190	169	162	2,248	1,952	2,049
Encephalitis: Primary (arthropod-borne & unsp.)	15	18	22	356	438	438
Post-infectious	1	2	3	51	69	53
Gonorrhea: Civilian	18,585	16,198	16,470	391,521	383,051	422,342
Military	255	360	371	7,404	9,009	11,479
Hepatitis: Type A	416	420	376	10,404	10,202	10,404
Type B	489	531	473	12,058	11,965	11,191
Non A, Non B	90	82	N	1,668	1,964	N
Unspecified	49	142	147	2,272	2,656	3,505
Legionellosis	5	14	N	245	324	N
Leprosy	3	8	3	129	182	111
Malaria	26	19	16	392	368	370
Measles: Total*	205	135	75	3,747	1,750	1,687
Indigenous	202	99	N	3,564	1,453	N
Imported	3	36	N	183	297	N
Meningococcal infections: Total	23	45	49	1,430	1,374	1,639
Civilian	23	45	49	1,428	1,369	1,624
Military	-	-	-	2	5	8
Mumps	126	45	55	2,138	1,869	2,050
Pertussis	40	35	35	1,223	807	807
Rubella (German measles)	8	53	33	286	318	655
Syphilis (Primary & Secondary): Civilian	507	499	611	11,939	11,848	14,384
Military	-	-	8	80	83	181
Toxic Shock syndrome	10	11	N	170	189	N
Tuberculosis	484	585	499	9,921	9,795	10,816
Tularemia	10	3	10	44	70	90
Typhoid fever	13	4	8	123	138	165
Typhus fever, tick-borne (RMSF)	34	32	48	205	209	304
Rabies, animal	92	98	158	2,564	2,437	3,047

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Hawaii 1)	18
Botulism: Foodborne	4	Plague	-
Infant (Calif 3)	25	Polio myelitis, Paralytic	-
Other	1	Psittacosis (S.C. 1)	37
Brucellosis (Calif 1)	31	Rabies, human	-
Cholera	-	Tetanus (Nebr 1, Tex 1)	22
Congenital rubella syndrome	2	Trichinosis	14
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine)	10
Diphtheria	-		

*Two of the 205 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending June 21, 1986 and June 22, 1985 (25th Week)

Reporting Area	AIDS	Aseptic Meningi- tis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral, by type)				Legionel- losis	Leprosy
			Primary	Post-in- fectious	Cum 1986	Cum 1985	A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	5,891	190	356	51	391,521	383,051	416	469	90	49	5	129
NORTH ATLANTIC	255	6	13	2	9,335	11,378	14	43	1	6	1	6
Maine	12	2	-	-	445	474	2	4	-	-	-	-
NH	6	-	2	-	242	235	-	-	-	-	-	-
VT	2	-	2	1	124	138	-	1	1	-	-	-
MA	134	2	3	-	3,969	4,335	4	29	-	5	1	6
CT	14	1	-	-	808	856	-	2	-	-	-	-
RI	87	1	6	1	3,747	5,340	8	7	-	1	-	-
MID ATLANTIC	2,222	24	51	4	86,164	57,392	9	15	1	3	-	11
District of Columbia	212	5	19	3	7,897	7,570	4	5	-	-	-	1
New York	1,498	7	12	-	38,277	28,362	-	-	-	2	-	9
New Jersey	348	12	6	-	8,504	9,516	5	10	1	1	-	1
Pennsylvania	164	-	14	1	11,486	11,944	-	-	-	-	-	-
SOUTH ATLANTIC	371	27	77	7	52,795	53,452	7	36	6	2	-	4
South Carolina	67	1	21	2	13,791	13,916	2	13	1	-	-	-
Georgia	38	7	9	2	5,767	5,186	1	10	-	1	-	-
Florida	178	4	19	2	14,442	14,305	2	3	2	-	-	3
Alabama	71	11	25	1	16,467	15,136	2	10	3	1	-	1
Mississippi	17	-	3	-	2,328	4,909	-	-	-	-	-	-
SOUTH CENTRAL	106	9	10	8	17,295	19,022	2	8	4	-	2	2
Texas	42	1	6	-	2,403	2,873	-	3	-	-	-	1
Oklahoma	8	2	4	-	1,742	2,044	-	-	2	-	1	-
Louisiana	33	3	-	-	8,969	8,950	1	3	1	-	1	-
Arkansas	2	-	-	-	147	133	-	-	-	-	-	-
Missouri	1	1	-	-	357	346	-	-	-	-	-	-
Kansas	5	-	-	1	1,280	1,641	-	1	-	-	-	1
Nebraska	15	2	-	7	2,387	3,055	1	1	1	-	-	-
WEST ATLANTIC	759	46	51	16	94,090	83,034	64	105	15	8	1	1
New Jersey	12	-	3	-	1,621	1,865	-	2	-	-	-	-
Delaware	78	4	16	-	11,988	13,306	6	18	2	1	-	-
Maryland	107	1	-	-	7,858	6,915	-	2	-	-	-	-
Virginia	80	-	16	1	8,295	8,697	-	1	1	-	-	1
North Carolina	3	-	7	-	1,108	1,170	14	2	-	-	-	-
South Carolina	36	1	8	1	15,990	15,027	1	11	2	3	-	-
Georgia	20	-	-	-	9,102	10,211	-	28	1	-	-	-
Alabama	89	11	-	1	9,359	-	4	10	1	-	1	-
Florida	334	29	1	13	28,769	24,943	39	31	8	4	-	-
WEST CENTRAL	83	16	25	3	32,921	33,157	6	36	5	2	-	1
Illinois	15	2	9	1	3,751	3,696	1	8	-	-	-	-
Indiana	46	1	3	1	12,787	13,118	1	11	-	-	-	-
Tennessee	14	11	12	1	9,282	10,800	3	14	5	1	-	1
Alabama	8	2	1	-	7,101	5,543	1	3	-	1	-	-
WEST SOUTH CENTRAL	448	31	36	3	49,434	52,108	40	27	7	11	-	9
Texas	17	-	-	-	4,517	5,049	2	-	-	-	-	-
Louisiana	82	-	2	-	8,893	10,521	1	2	1	1	-	-
Oklahoma	20	3	8	-	5,704	5,414	6	1	1	1	-	-
Arkansas	329	28	25	3	30,320	31,122	31	24	5	9	-	9
MOUNTAIN	155	4	16	1	12,105	12,465	36	29	13	3	-	9
Montana	3	-	-	1	337	350	1	1	1	-	-	-
Idaho	1	-	-	-	400	398	1	-	-	-	-	-
Wyoming	4	-	2	-	285	303	-	2	1	2	-	3
Colorado	82	1	3	-	3,111	3,780	3	5	1	-	-	-
New Mexico	6	-	1	-	1,223	1,405	2	1	-	-	-	-
Arizona	39	2	7	-	3,967	3,707	19	7	5	-	-	4
Utah	8	1	2	-	518	529	1	7	3	1	-	-
Nevada	12	-	1	-	2,264	1,993	9	6	3	-	-	2
PACIFIC	1,492	27	77	7	57,392	61,045	238	170	38	14	1	86
Washington	50	2	10	-	4,307	4,259	7	13	1	-	1	10
Oregon	34	-	-	-	2,300	2,997	68	24	4	1	-	-
California	1,383	20	65	7	48,716	51,473	163	129	33	13	-	61
Alaska	9	1	2	-	1,405	1,441	-	2	-	-	-	-
Hawaii	16	4	-	-	664	875	-	2	-	-	-	15
Guam	-	-	-	-	64	88	-	-	-	5	-	1
PR	57	2	3	-	1,183	1,695	1	5	-	1	-	7
VI	2	-	-	-	108	235	-	-	-	-	-	-
Pac. Trust Terr	-	-	-	-	165	421	3	-	-	-	-	18
Amer Samoa	-	-	-	-	22	-	-	-	-	-	-	1

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 21, 1986 and June 22, 1985 (25th Week)

Reporting Area	Measles (Rubeola)		Meningococcal Infections		Mumps		Pertussis		Rubella						
	Indigenous	Imported *	Total	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986	1986	Cum 1986
Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985	
UNITED STATES	392	202	3,564	3	183	1,750	1,430	126	2,138	40	1,223	807	8	286	318
NEW ENGLAND	26	3	33	-	4	119	106	2	43	-	60	40	-	8	9
Maine	1	-	-	-	-	-	23	-	-	-	2	3	-	-	-
NH	1	3	9	-	-	-	5	-	10	-	23	22	-	1	2
VT	1	-	-	-	-	-	15	-	2	-	3	2	-	-	-
Mass	13	-	21	-	3	112	21	-	3	-	16	5	-	4	6
RI	4	-	2	-	-	-	15	2	9	-	1	4	-	2	-
Conn	6	-	1	-	1	7	27	-	19	-	15	4	-	1	-
MID ATLANTIC	43	58	1,227	-	20	162	217	2	105	4	104	71	-	27	118
Upstate N.Y.	12	5	32	-	19	77	71	-	38	2	69	38	-	19	12
N.Y. City	11	32	304	-	1	42	45	-	5	-	3	9	-	5	83
N.J.	7	19	869	-	-	20	29	-	29	-	7	2	-	3	11
Pa.	13	2	22	-	-	23	72	2	33	2	25	22	-	-	12
E.N. CENTRAL	18	74	598	2	14	412	190	106	1,284	-	181	120	3	17	20
Ohio	6	-	-	-	8	44	80	1	89	-	74	18	-	-	-
Ind	-	-	-	-	-	1	17	-	21	-	22	11	-	-	-
Ill	6	67	397	2†	3	259	47	92	827	-	21	20	2	11	5
Mich	6	7	22	-	-	52	44	13	199	-	21	15	1	4	14
Wis	-	-	177	-	3	56	2	-	148	-	43	56	-	2	1
W.N. CENTRAL	11	16	188	-	16	9	75	1	67	-	67	63	1	9	18
Minn	3	6	37	-	4	4	16	-	1	-	31	14	-	-	2
Iowa	1	6	31	-	1	-	10	1	14	-	9	3	-	1	-
Mo.	4	4	15	-	6	2	24	-	12	-	5	13	-	1	7
N. Dak.	-	-	12	-	1	2	-	-	2	-	3	7	-	-	2
S. Dak.	-	-	-	-	-	-	4	-	1	-	8	1	-	-	-
Nebr.	2	-	-	-	-	-	8	-	-	-	-	3	-	-	-
Kans.	1	-	93	-	4	1	13	-	37	-	11	22	1	7	7
S. ATLANTIC	51	5	389	-	50	189	281	1	123	9	427	178	-	9	30
Dal.	-	-	1	-	-	-	1	-	-	1	217	-	-	-	1
Md.	9	-	19	-	8	35	36	-	10	8	76	74	-	-	1
D.C.	-	-	-	-	-	3	4	-	-	-	-	-	-	-	-
Va.	10	3	24	-	24	19	50	1	24	-	15	5	-	-	1
W. Va.	2	-	2	-	-	31	3	-	33	-	5	1	-	-	9
N.C.	4	-	1	-	1	9	46	-	11	-	18	9	-	-	-
S.C.	3	-	274	-	-	-	24	-	11	-	5	-	-	-	3
Ga.	5	2	56	-	14	8	44	-	12	-	74	57	-	-	-
Fla.	18	-	12	-	3	84	73	-	22	-	17	32	-	9	15
E.S. CENTRAL	8	25	28	-	-	1	82	1	19	-	21	9	-	1	2
Ky.	2	-	-	-	-	-	17	-	3	-	1	3	-	1	2
Tenn.	-	25	26	-	-	-	33	1	13	-	5	2	-	-	-
Ala.	3	-	-	-	-	-	22	-	2	-	15	2	-	-	-
Miss.	3	-	2	-	-	1	10	-	1	-	-	2	-	-	-
W.S. CENTRAL	31	-	496	-	28	220	115	2	132	2	94	124	-	52	22
Ark.	-	-	276	-	2	-	16	-	7	2	5	11	-	-	1
La.	4	-	1	-	-	27	16	-	2	-	5	5	-	-	-
Okla.	3	-	10	-	2	-	15	N	N	-	56	71	-	-	1
Tex.	24	-	209	-	24	193	68	2	123	-	28	37	-	52	20
MOUNTAIN	14	7	262	1	22	457	70	2	183	5	122	35	1	16	4
Mont.	-	-	1	-	7	137	7	-	5	-	5	3	-	1	-
Idaho	1	-	1	-	-	115	1	1	4	-	27	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	3	-	2	1§	5	6	11	-	9	-	36	10	-	1	-
N. Mex.	1	-	26	-	5	3	6	N	N	-	11	4	-	-	2
Ariz.	5	6	231	-	5	196	14	1	153	4	28	10	-	1	1
Utah	2	1	1	-	-	-	8	-	9	1	14	8	1	10	-
Nev.	2	-	-	-	-	-	21	-	3	-	-	-	-	3	-
PACIFIC	190	14	345	-	29	181	294	9	182	20	147	167	3	147	95
Wash.	14	-	70	-	14	28	42	-	7	2	51	24	-	6	2
Oreg.	13	-	-	-	4	3	21	N	N	-	8	19	-	-	1
Calif.	163	14	256	-	10	134	221	9	161	17	82	112	3	139	58
Alaska	-	-	-	-	-	-	9	-	5	-	2	9	-	-	1
Hawaii	-	-	19	-	1	16	1	-	9	1	4	3	-	2	33
Guam	1	-	3	-	-	10	-	-	4	-	-	-	-	2	1
P.R.	4	-	18	-	-	46	2	-	20	-	7	5	-	58	20
V.I.	-	-	-	-	-	10	-	-	10	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	4	-	-	-	-	-	-
Amer. Samoa	-	-	2	-	-	-	-	-	1	-	-	-	-	1	-

*For measles only, imported cases includes both out-of-state and international importations

N: Not notifiable U: Unavailable †: International §: Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 21, 1986 and June 22, 1985 (25th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	11,939	11,848	10	9,921	9,795	44	123	205	2,564
NEW ENGLAND	249	266	-	315	328	-	4	2	3
Maine	15	7	-	26	22	-	-	-	-
N.H.	7	6	-	9	14	-	-	-	-
Vt.	6	3	-	10	4	-	-	-	-
Mass.	129	138	-	144	197	-	3	1	-
R.I.	16	7	-	24	27	-	-	-	1
Conn.	76	105	-	102	64	-	1	1	2
MID ATLANTIC	1,740	1,656	-	1,969	1,786	-	13	7	185
Upstate N.Y.	88	115	-	299	296	-	2	1	32
N.Y. City	984	1,031	-	964	911	-	5	2	-
N.J.	325	342	-	361	212	-	5	1	7
Pa.	343	168	-	345	367	-	1	3	146
E.N. CENTRAL	492	545	-	1,239	1,157	-	8	34	61
Ohio	64	74	-	211	213	-	1	33	5
Ind.	58	52	-	139	142	-	-	-	10
Ill.	269	275	-	549	511	-	1	1	18
Mich.	74	114	-	283	231	-	5	-	11
Wis.	27	30	-	57	60	-	1	-	17
W.N. CENTRAL	117	120	1	286	257	12	5	13	416
Minn.	18	28	-	71	44	-	1	1	45
Iowa	7	14	-	23	37	1	-	-	93
Mo.	63	55	-	141	123	9	4	5	44
N. Dak.	2	1	-	4	2	-	-	-	99
S. Dak.	1	4	-	13	14	2	-	1	89
Nebr.	11	6	-	5	9	-	-	3	9
Kans.	15	12	1	29	28	-	-	3	37
S. ATLANTIC	3,295	2,939	1	1,927	2,039	6	14	80	608
Del.	22	17	-	21	18	-	-	1	-
Md.	214	199	-	135	187	1	4	7	321
D.C.	157	178	-	70	87	-	1	-	-
Va.	193	151	-	171	184	2	3	15	96
W. Va.	9	8	-	53	48	-	2	4	13
N.C.	242	325	-	275	246	1	2	23	3
S.C.	312	384	1	243	257	-	-	24	21
Ga.	383	-	-	276	330	2	-	6	83
Fla.	1,763	1,677	-	683	682	-	2	-	71
E.S. CENTRAL	793	968	1	890	902	5	1	27	145
Ky.	39	33	1	218	194	2	-	5	48
Tenn.	299	284	-	272	279	3	-	9	56
Ala.	269	316	-	289	286	-	-	6	41
Miss.	191	335	-	111	143	-	1	7	-
W.S. CENTRAL	2,544	2,981	4	1,221	1,122	18	8	36	415
Ark.	126	151	-	164	116	11	-	2	98
La.	428	519	-	186	177	1	-	-	11
Okla.	70	83	4	117	128	4	1	27	34
Tex.	1,920	2,228	-	754	701	2	7	7	272
MOUNTAIN	280	354	2	223	231	2	7	6	409
Mont.	4	2	-	11	29	-	1	3	145
Idaho	5	3	-	10	11	-	-	-	-
Wyo.	-	6	-	-	5	-	-	1	192
Colo.	79	89	-	10	30	-	1	2	-
N. Mex.	33	45	-	49	45	1	-	-	4
Ariz.	121	187	-	107	99	-	2	-	67
Utah	7	4	1	21	6	1	2	-	-
Nev.	31	18	1	15	6	-	1	-	1
PACIFIC	2,424	2,019	1	1,851	1,973	1	63	-	322
Wash.	52	63	1	97	109	-	2	-	2
Oreg.	55	43	-	68	71	-	-	-	-
Calif.	2,296	1,872	-	1,567	1,647	-	57	-	312
Alaska	-	2	-	27	56	1	1	-	8
Hawaii	21	39	-	92	90	-	3	-	-
Guam	1	2	-	30	23	-	-	-	-
P.R.	421	390	-	134	164	-	3	-	19
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	142	40	-	25	29	-	39	-	-
Amer. Samoa	-	-	-	3	-	-	-	-	-

U. Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
June 21, 1986 (25th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	635	426	128	49	11	20	43	S ATLANTIC	1,151	658	266	125	60	42	43
Boston, Mass	180	107	38	19	5	11	16	Atlanta, Ga	142	92	28	16	3	3	3
Bridgeport, Conn	36	22	12	2	-	-	2	Baltimore, Md	199	61	57	47	26	8	1
Cambridge, Mass	24	22	2	-	-	-	5	Charlotte, N.C.	65	39	20	4	1	1	4
Fall River, Mass	31	26	4	1	-	-	-	Jacksonville, Fla	105	68	18	10	4	5	4
Hartford, Conn	52	31	14	2	2	3	1	Miami, Fla	93	47	23	17	4	2	3
Lowell, Mass	12	12	-	-	-	-	1	Norfolk, Va	64	44	11	1	6	2	2
Lynn, Mass	19	14	5	-	-	-	2	Richmond, Va	77	50	19	3	1	4	4
New Bedford, Mass	29	21	7	1	-	-	2	Savannah, Ga	50	33	7	5	3	2	5
New Haven, Conn	62	34	15	11	2	-	3	St. Petersburg, Fla	86	66	13	4	1	2	8
Providence, R.I.	46	32	8	3	-	3	3	Tampa, Fla	66	40	16	4	3	3	4
Somerville, Mass	8	7	1	-	-	-	-	Washington, D.C.	180	103	47	13	7	10	5
Springfield, Mass	49	37	7	4	1	-	2	Wilmington, Del	24	15	7	1	1	-	-
Waterbury, Conn	30	24	3	2	-	-	1								
Worcester, Mass	57	37	12	4	1	3	5	E S CENTRAL	741	473	164	59	24	21	28
MID ATLANTIC	2,660	1,790	526	240	68	36	118	Birmingham, Ala	133	79	33	14	2	5	3
Albany, N.Y.	47	29	14	-	3	1	3	Chattanooga, Tenn	64	39	16	4	3	2	9
Allentown, Pa	32	24	6	2	-	-	-	Knoxville, Tenn	93	56	25	7	3	2	4
Buffalo, N.Y.	68	42	12	7	2	5	4	Louisville, Ky	83	61	16	4	-	2	6
Camden, N.J.	45	26	11	2	2	4	2	Memphis, Tenn	156	104	26	14	8	4	-
Elizabeth, N.J.	18	13	4	1	-	-	2	Mobile, Ala	60	38	15	4	1	2	1
Erie, Pa†	37	27	8	2	-	-	1	Montgomery, Ala	52	32	12	3	4	1	1
Jersey City, N.J.	39	31	4	2	1	1	3	Nashville, Tenn	100	64	21	9	3	3	4
N.Y. City, N.Y.	1,471	971	280	171	36	13	60	W S CENTRAL	1,276	762	296	121	47	50	46
Newark, N.J.	40	20	9	7	3	1	-	Austin, Tex	51	32	8	5	2	4	4
Paterson, N.J.	26	18	4	3	-	1	2	Baton Rouge, La	30	20	10	-	-	-	2
Philadelphia, Pa	396	274	91	25	5	1	20	Corpus Christi, Tex §	37	24	9	3	1	-	1
Philadelph, Pa†	73	51	13	5	2	2	1	Dallas, Tex	199	101	53	23	12	10	5
Reading, Pa	34	27	6	-	1	-	2	El Paso, Tex	47	28	12	4	2	1	4
Rochester, N.Y.	127	85	24	8	6	4	8	Fort Worth, Tex	91	57	22	3	5	4	2
Schenectady, N.Y.	24	22	2	-	-	-	1	Houston, Tex	284	155	72	36	6	15	6
Scranton, Pa†	28	18	8	-	2	-	-	Little Rock, Ark	60	36	10	10	2	2	1
Syracuse, N.Y.	72	52	13	2	3	2	6	New Orleans, La	125	81	25	8	8	3	1
Trenton, N.J.	29	19	6	2	2	-	-	San Antonio, Tex	196	129	39	18	5	5	14
Utica, N.Y.	27	18	9	-	-	-	-	Shreveport, La	72	52	12	3	1	4	2
Yonkers, N.Y.	27	23	2	1	-	1	3	Tulsa, Okla	84	47	24	8	3	2	4
E N CENTRAL	2,202	1,448	480	148	57	69	85	MOUNTAIN	597	345	145	54	26	27	28
Akron, Ohio	73	47	16	3	4	3	-	Albuquerque, N.Mex	90	49	22	10	4	5	5
Canton, Ohio	29	25	3	1	-	-	5	Colorado Springs, Colo	28	17	7	1	3	-	3
Chicago, Ill §	564	362	125	45	10	22	16	Denver, Colo	103	60	28	9	3	3	5
Cincinnati, Ohio §	139	90	31	8	6	4	12	Las Vegas, Nev	84	31	30	14	5	4	4
Cleveland, Ohio	148	93	24	15	10	6	-	Ogden, Utah	21	15	2	-	1	3	1
Columbus, Ohio	129	85	27	8	4	5	-	Phoenix, Ariz	125	81	28	7	4	5	2
Dayton, Ohio	105	57	34	11	1	2	6	Pueblo, Colo	18	12	4	2	-	-	3
Detroit, Mich	230	146	52	21	6	5	4	Salt Lake City, Utah	39	21	7	3	3	5	-
Evansville, Ind	36	24	9	2	1	-	2	Tucson, Ariz	89	59	17	8	3	2	5
Fort Wayne, Ind	47	32	11	2	1	1	4								
Gary, Ind	17	9	3	2	2	1	2	PACIFIC	1,883	1,222	363	173	73	46	91
Grand Rapids, Mich	60	41	11	4	2	2	4	Berkeley, Calif	12	9	2	1	-	-	-
Indianapolis, Ind	144	90	41	5	3	5	2	Fresno, Calif	66	49	7	6	3	1	7
Madison, Wis	32	16	7	5	3	1	4	Glendale, Calif	28	23	3	-	1	-	1
Milwaukee, Wis	135	102	24	4	-	5	5	Honolulu, Hawaii	59	39	11	3	6	-	-
Peoria, Ill	33	24	9	-	-	-	4	Long Beach, Calif	81	53	18	5	4	1	13
Rockford, Ill	35	23	8	-	1	3	4	Los Angeles, Calif	603	371	125	59	31	13	15
South Bend, Ind	37	27	6	1	1	2	5	Oakland, Calif §	68	46	12	7	1	2	5
Toledo, Ohio	131	102	23	3	1	2	6	Pasadena, Calif	27	23	2	-	1	1	1
Youngstown, Ohio	78	53	16	8	1	-	-	Portland, Oreg	137	102	22	5	5	2	7
W N CENTRAL	679	455	134	34	24	32	33	Sacramento, Calif	145	92	32	14	5	2	8
Des Moines, Iowa	68	40	17	3	6	2	5	San Diego, Calif	144	82	26	22	5	9	10
Duluth, Minn	29	23	6	-	-	-	5	San Francisco, Calif	151	85	30	28	4	4	6
Kansas City, Kans	36	18	8	3	2	5	-	San Jose, Calif	141	87	35	12	3	4	9
Kansas City, Mo	97	66	18	7	4	2	11	Seattle, Wash	127	93	23	7	2	2	4
Lincoln, Nebr	24	15	7	1	1	-	-	Spokane, Wash	54	40	10	1	1	2	5
Minneapolis, Minn	95	55	21	6	3	10	1	Tacoma, Wash	40	28	5	3	1	3	2
Omaha, Nebr	68	52	13	2	1	-	3								
St. Louis, Mo	141	106	16	8	3	8	2	TOTAL	11,824	7,579	2,502	1,003	390	343	515
St. Paul, Minn	61	41	13	3	1	3	2								
Wichita, Kans	60	39	15	1	3	2	4								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

*Perspectives in Disease Prevention and Health Promotion***The Secretary's Community Health Promotion Awards**

On June 18, 1986, the Secretary of the U.S. Department of Health and Human Services (DHHS), announced the recipients of the 1986 Secretary's Community Health Promotion Awards. Fifty-six programs, representing 29 states and the District of Columbia, were awarded the Secretary's Award for Excellence in Community Health Promotion, and 141 received the Secretary's Outstanding Community Health Promotion Program Certificate of Merit. The Awards are a cooperative effort between DHHS and all official state and territorial health agencies.

A wide range of preventive efforts concerning today's leading health problems were addressed by the projects recognized as excellent—these are listed below under the categories of the 1990 health objectives for the nation (1).

HEALTH PROMOTION**Smoking and Health**

Minnesota Coalition for a Smoke-Free Society by the Year 2000 (Minneapolis, Minnesota).

Smokeless Tobacco Education: Trouble in a Pinch (Kansas City, Missouri).

Rhode Island Youth Council on Smoking (Providence, Rhode Island).

Misuse of Alcohol and Drugs

FACE (Madawaska, Maine).

Montana Teenage Institute on Substance Abuse (Helena, Montana).

Substance Abuse Prevention Program (Albuquerque, New Mexico).

Student Assistance Programs (Philadelphia, Pennsylvania).

Nutrition

St. Vincent Infirmary/KATV Newscene 7 Colorectal Cancer Screening Project (Little Rock, Arkansas).

San Jose Nutrition Education Project (San Jose, California).

First Free Cholesterol Screening Project (Omaha, Nebraska).

Medcenter One Diabetes Education Program (Bismarck, North Dakota).

Colorectal Cancer Screening Campaign (Portland, Oregon).

Physical Fitness and Exercise

Zuni Fitness/Weight Control Program (Zuni, New Mexico).

Slim For Life and Slim For Life Plus (Salt Lake City, Utah).

Health Maintenance Program of the Honolulu Gerontology Program (Island of Oahu, Hawaii).

YMCA Folksmarch (New York City).

Mesa Physical Fitness Program (Amarillo, Texas).

The Health Education and Physical Fitness Project for Older Adults (Fairfax County, Virginia).

General

Contra Costa County Health Services Department Prevention Program (Martinez, California).

Elderly Health Screening Service, Inc. (Waterbury, Connecticut).

LifeReach (Atlanta, Georgia).

Community Care Program (Island of Oahu, Hawaii).

Growing Wiser (Boise, Idaho).

Health Promotion Awards — Continued

Health Expo '85 (Sac City, Iowa).
Planned Approach to Community Health (PATCH) (Butler County, Kansas).
Senior Citizens' Wellness Program—Growing Younger (Butler and Greenwood Counties, Kansas).
S.E.L.F. (Sharing, Exercise, Lifestyles, and Fitness)—A Model Worksite Health Promotion Program (Crescent Springs, Kentucky).
Ambulatory Diabetes Education and Follow-Up (ADEF) Program (Maine [statewide]).
The Center for Health Promotion—A Rural Health Promotion Project (Lewellen, Nebraska).
Scudder Homes Health Awareness Program (Newark, New Jersey).
Columbus Satellite Health Program (Columbus, New Mexico).
Heart Health in Hamilton County Project (Hamilton County, Ohio).
Multnomah County Employee Health Promotion Program (Multnomah County, Oregon).
Healthy People Program (Allentown, Pennsylvania).
CHIP (Lycoming County Health Improvement Program) (Williamsport, Pennsylvania).
Channel 5 Health Fair (Nashville, Tennessee).
Health Enhancement Program (Nashville, Tennessee).
Health Adventure (Harris County, Houston, Texas).
Family High Risk Program (Salt Lake City, Utah).
Impedance Screening (Clarksburg, West Virginia).

PREVENTIVE HEALTH SERVICES**High Blood Pressure Control**

Worksite Hypertension Program/Heart Healthy Lifestyles (Hennepin County, Minnesota).
Monmouth Hypertension Control Project (M.H.C.P.) Monmouth County, New Jersey).
Senior Volunteer Hypertension Screening and Monitoring Program (SVHSMP) (New York City).

Family Planning and Pregnancy and Infant Health

Prevention of Teenage Pregnancies (Washington, D.C.).
Pregnant Adolescent Group for Education and Support (P.A.G.E.S.) (Lake County, Illinois).
Infant Mortality Reduction Program (Bell County, Kentucky, and Claiborne County, Tennessee).
Parent Child Task Force (Richmond, Virginia).

Immunization

The Immunization Education Program at Oakwood Hospital (Dearborn, Michigan).

HEALTH PROTECTION**Accident Prevention and Injury Control**

Operation Childsaver (Sarasota, Florida).
Get Caught Missoula (Missoula County, Montana).
Greenville/Greene County Youth Alcohol Highway Safety Pilot Project (Greenville, Tennessee).
Don't Buck The Odds. Buckle Up (Dallas, Fort Worth Metroplex Area, Texas).
Operation Graduation 1985 (Salt Lake City, Utah).

Fluoridation and Dental Health

Children's Dental Disease Prevention Program (California [statewide]).
Children's Dental Health Program (Red Wing, Minnesota).

Surveillance and Control of Infectious Diseases

Health Promotion in Day Care Settings (Guilford County, Greensboro, North Carolina).

Health Promotion Awards — Continued

Full descriptions of the programs are available from the respective state health agencies; a publication describing the Secretary's Health Promotion Awards Program and the awards for 1986 will be available in July from the Center for Health Promotion and Education, CDC; descriptive abstracts of all 197 projects are currently available in the computerized Combined Health Information Database on BRS Information Technologies.

Reported by the Div of Health Education, Center for Health Promotion and Education, CDC.

Editorial Note: The Secretary's Community Health Promotion Award was established in 1982 to recognize exemplary local community and state efforts to improve the health of their citizens. In addition, explicit identification of successful community projects promotes them as models for efforts in other communities. Projects aimed at risk reduction for chronic diseases, injuries, infant mortality, and others are eligible and have been recognized in the past. Criteria for award include documentation of evaluation of impact on the selected health problems. Interested agencies should contact the community health agencies identified here regarding specific projects or the respective state health department regarding the Secretary's Community Health Promotion Award process.

Reference

1. U.S. Department of Health and Human Services. Promoting health/preventing disease: objectives for the nation. Washington, D.C., U.S. Department of Health and Human Services, 1980.

*Epidemiologic Notes and Reports***Bacteremia Associated with Reuse
Of Disposable Hollow-Fiber Hemodialyzers**

Since May 6, 1986, CDC and the U.S. Food and Drug Administration (FDA) have received reports from four free-standing hemodialysis clinics of clusters of patients with gram-negative bacteremia. These patients were undergoing maintenance hemodialysis at clinics in which disposable hollow-fiber hemodialyzers were reused on the same patient after disinfection with a recently introduced chemical germicide, RenNew-D (manufactured by Alcide Corporation, Norwalk, Connecticut, and solely distributed by Cobe Laboratories, Inc., Lakewood, Colorado).

CDC and FDA have participated in investigations of these clusters at two of the four clinics. A total of nine patients at these two clinics met a case definition of intradialytic sepsis based on the following criteria: (1) absence of signs or symptoms of infection at the initiation of the dialysis session; (2) presence of one or more of the following signs or symptoms during the dialysis session: shaking chills, fever, hypotension, nausea, vomiting; and (3) growth of gram-negative microorganisms from blood cultures obtained during or following the dialysis session. Review of microbiologic records in these centers showed no clusters of gram-negative bacteremia during the preceding 6 months. All the patients were treated with parenteral antimicro-

Bacteremia — Continued

bials and recovered without apparent sequelae. Microorganisms isolated from the blood cultures included *Pseudomonas aeruginosa* (five patients), *P. maltophilia* (three), *Acinetobacter calcoaceticus* (var. *lwoffii*) (three), *P. putida* (one), and *Alcaligenes denitrificans* (one). Three patients had two or more microorganisms isolated from their blood. These two hemodialysis clinics had been using RenNew-D for reprocessing of hemodialyzers for 6 weeks and 4 months, respectively, before the first documented case of bacteremia.

Microbiologic investigation of hemodialyzers at one of the four clinics showed bacterial contamination of the blood compartment in 10 of 20 hemodialyzers after reprocessing with RenNew-D during the week of June 9. For the 17 hemodialyzers for which the number of reuses was documented, the number of previous uses ranged from one to 50. Changes in the mixing and handling of RenNew-D were subsequently made by the staff at the hemodialysis clinic after consultation with representatives of the manufacturer and distributor of the product. Following these changes, cultures were performed of: (1) RenNew-D drained from stored reprocessed hemodialyzers; (2) saline that had been used to rinse the blood circuits, including the interiors of reprocessed hemodialyzers and other components of the blood circuits, before dialysis; and (3) blood obtained from the blood circuit during the patients' dialyses. Gram-negative microorganisms were identified in none of 137 samples of RenNew-D, in seven (6%) of 108 samples of the predialysis saline rinse, and in blood cultures from 11 (11%) of 102 patients.

It has not been determined why hemodialyzers showed evidence of contamination after reprocessing with RenNew-D. The manufacturer has initiated a voluntary recall of all lots of the product. Studies are in progress to evaluate the source and possible causes of these clusters.

Reported by GT Flynn, Community Dialysis Svcs, Inglewood, SH Waterman, MD, Los Angeles County Health Dept, SB Werner, MD, California Dept of Health Svcs; TF Parker, MD, Dallas Kidney Disease Center, G Green, MD, CE Haley, MD, Dallas County Health Dept, CE Alexander, MD, State Epidemiologist, Texas Dept of Health; Center for Devices and Radiologic Health, US Food and Drug Administration; Hospital Infections Program, Center for Infectious Diseases, CDC.

Editorial Note: The practice of disinfecting and reusing hemodialyzers labeled "for single use only" has been adopted by more than 50% of hemodialysis centers responding to surveys of dialysis-associated diseases (7). Bacterial contamination resulting in patient infections has previously been documented in hemodialyzers that were reprocessed with benzalkonium chloride (2,3) and 2% formaldehyde (4).

Until further information is available, CDC recommends that providers of hemodialysis services review their experience and assess the clinical safety of their hemodialysis practices. Evaluation of reuse programs should include active surveillance of hemodialysis patients for both infectious and noninfectious complications. Clinical, laboratory, and epidemiologic information about patients experiencing adverse reactions should be recorded in the patient's medical record, as well as in a log book, so that incidence rates of these complications can be determined. Additional studies of the functional and microbiologic quality of reprocessed hemodialyzers, as well as the factors affecting their clinical safety, are needed to formulate guidelines.

References

1. Bland L, Alter M, Favero M, Carson L, Cusick L. Hemodialyzer reuse: practices in the United States and implication for infection control. *Trans Am Soc Artificial Intern Organs* 1985;31:556-9.
2. Wagnild JP, McDonald P, Craig WA, et al. *Pseudomonas aeruginosa* bacteremia in a dialysis unit. II. Relationship to reuse of coils. *Am J Med* 1977;62:672-6.
3. Kuehnel E, Lundh H. Outbreak of *Pseudomonas cepacia* bacteremia related to contaminated reused coils. *Dialysis and Transplantation* 1976;5:44-5, 48, 66.
4. Bolan G, Reingold AL, Carson LA, et al. Infections with *Mycobacterium chelonae* in patients receiving dialysis and using processed hemodialyzers. *J Infect Dis* 1985;152:1013-9.

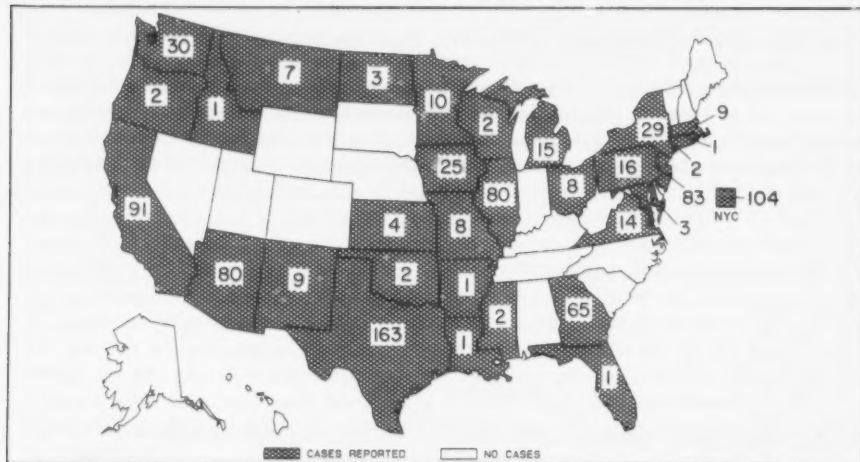
Notice to Readers**First National Conference on Chronic Disease Prevention and Control**

The First National Conference on Chronic Disease Prevention and Control will be held September 9-11, 1986, in Atlanta, Georgia, cosponsored by the Association of State and Territorial Health Officials and CDC. For information, contact the Division of Chronic Disease Control, Center for Environmental Health, CDC, telephone: commercial—(404) 452-4255; FTS—236-4255.

Erratum: Vol. 35, No. 17

- p. 317** In the article, "Prevention and Control of Influenza," the last part of the last (**) footnote of Table 1 on page 319 should read: . . . influenza vaccine recommended from 1978-1979 to 1985-1986, one dose is sufficient.

FIGURE 1. Reported measles cases — United States, weeks 21-24, 1986



The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

©U.S. Government Printing Office: 1986-746-149/40009 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

MMWR NEWAR000N DR 376 F 1
NEWARK PUBLIC LIBR
5 WASHINGTON ST
NEWARK NJ 07101

MMWR

- 421 HTLV-III/LAV Antibody Prevalence in U.S. Military Recruit Applicants
- 429 Fatality at a Waterslide Amusement Park — Utah
- 430 Bat Rabies — Europe

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

Human T-Lymphotropic Virus Type III/Lymphadenopathy-Associated Virus Antibody Prevalence in U.S. Military Recruit Applicants

From October 1, 1985, through March 31, 1986, as part of medical evaluation of individuals volunteering for military service, the U.S. Department of Defense tested 308,076 recruit applicants for serologic evidence of infection with human T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV), the etiologic retrovirus of acquired immunodeficiency syndrome (AIDS).^{*} Blood samples were obtained at 71 Military Entrance Processing Stations. The screened population consisted predominately of young adults in their late teens (54%) and early twenties (33% were 20-25 years old). Eighty-five percent were male, and 77% were white. Sera were tested by a single contracting laboratory using a commercial human T-lymphotropic virus type III (HTLV-III) enzyme-linked immunosorbent assay (ELISA) test (Electronucleonics, Inc.). All samples repeatedly reactive by ELISA were also subjected to confirmation testing by the Western blot. Blots were considered positive if antibodies to gp 41 and/or p24+p55 were detected. Recruit applicants with confirmed HTLV-III/LAV antibody are excluded from military service.

The mean prevalence of confirmed positive tests was 1.5 per 1,000 recruit applicants. Antibody prevalence increased progressively with age (Table 1), a pattern consistent throughout the country (Table 2). The seroprevalence was higher among the 265,361 men of all ages, 1.6/1,000, than among the 42,715 women, 0.6/1,000. The ratio of male-to-female prevalence rates was 3:1. Prevalence also varied by race: for the 237,586 whites, the rate was 0.9/1,000; for the 55,185 blacks, 3.9/1,000; and for the 15,305 applicants of other racial groups, 2.6/1,000. The relationships of seroprevalence rates by sex and race remain when the data are adjusted by age.

Seroprevalence rates (Table 2) were highest in the coastal regions of the country other than New England. Rates were lowest in New England and in the inland regions. Based on preliminary analysis by county, the highest HTLV-III antibody rates were found in recruit applicants from major urban centers and lowest in those from rural areas.

Reported by the Health Studies Task Force, Office of the Assistant Secretary of Defense (Health Affairs); Dept of Virus Disease, Div of Preventive Medicine, Walter Reed Army Institute of Research; Surveillance and Evaluation Br, AIDS Program, Center for Infectious Disease, CDC.

Editorial Note: Although there is considerable knowledge regarding the distribution of

^{*}The AIDS virus has been variously termed human T-lymphotropic virus type III (HTLV-III), lymphadenopathy-associated virus (LAV), AIDS-associated retrovirus (ARV), or human immunodeficiency virus (HIV). The designation human immunodeficiency virus (HIV) has recently been proposed by a subcommittee of the International Committee for the Taxonomy of Viruses as the appropriate name for the retrovirus that has been implicated as the causative agent of AIDS (Science 1986;232:697).

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:35/26

HTLV-III/LAV - Continued

reported cases of AIDS in the United States (1), there has been much less information about the prevalence of infection with HTLV-III/LAV. Studies of HTLV-III/LAV antibody prevalence have primarily involved selected high-risk groups, including homosexual men (24%-68% positive) (2-5), intravenous (IV) drug abusers (2%-72% positive) (6-8), and hemophilia patients (40%-88% positive) (9-11). The limited published data from blood-bank screening programs, where persons in high-risk groups are specifically discouraged from donating, indicate a confirmed antibody prevalence nationally of less than 0.4/1,000 (12).

The Department of Defense medical evaluation program provides additional information on the geographic and demographic factors associated with HTLV-III/LAV infection in the United States. The population of individuals volunteering for military service may not be representative of the U.S. population at large due to the spontaneous, if partial, self-exclusion of hemophilia patients, actively homosexual men, and current IV drug abusers. However, the data suggest the following: (1) While the highest seroprevalence occurs among those over 25 years old, the age of acquisition of confirmed antibody (and by implication, infection) can often be in the late teens and early twenties. Age at diagnosis of reported AIDS is older, with a

TABLE 1. Prevalence of HTLV-III/LAV antibody* among military recruit applicants, by age — United States, October 1985-March 1986

Age (yrs)	No. tested	Positives/1,000 [†]
17	59,113	0.2
18	61,452	0.4
19	43,978	0.8
20	29,835	1.1
21-25	73,998	2.5
≥26	39,700	4.4
All ages	308,076	1.49

*Western blot confirmed.

[†]Rates/1,000 tested.

TABLE 2. Prevalence of HTLV-III antibody* per 1,000 military recruit applicants tested, by region and age group — United States, October 1985-March 1986

Region [†]	No. tested	Age group (yrs)			All ages
		17-20	21-25	≥ 26	
New England	14,131	0.3 [§]	1.0 [§]	1.9 [§]	0.6
Mid-Atlantic	43,196	0.9	4.4	10.1	2.8
E.N. Central	55,943	0.2	2.0	2.2	0.8
W.N. Central	26,850	0.2 [§]	1.1 [§]	1.4	0.6
S. Atlantic	50,654	0.7	3.3	5.7	1.9
E.S. Central	21,027	0.4 [§]	2.2	1.1 [§]	0.9
W.S. Central	34,782	0.7	2.5	2.6	1.4
Mountain	19,015	0.3 [§]	1.8	2.6	1.1
Pacific	39,260	0.7	1.5	4.7	1.5
All[¶]	308,076	0.5	2.5	4.4	1.5

*Western blot confirmed.

[†]Defined in notifiable diseases table (Table III).

[§]Rate based on five or fewer positives.

[¶]Includes data from Puerto Rico, Virgin Islands, Guam, American Samoa, Northern Marianas, and the Trust Territories.

HTLV-III/LAV — Continued

median of 32-35 years, depending on risk group, race, and sex. Only 0.7% of reported cases among adults/adolescents occur between 13 and 20 years of age; 6.5% develop between 21 and 25 years; the remaining 92.8% are diagnosed at or after 26 years of age. (2) The ratio of seroprevalence between male and female recruit applicants is 3:1. This is much lower than the ratio of 13:1 observed among all AIDS cases, but like the 3:1 ratio among other AIDS patients if homosexual and hemophilia-associated cases are excluded. (3) The ratio of seroprevalence rates of black to white recruit applicants (4:1) is intermediate between the 2.6 relative risk for blacks among all AIDS patients (25.2% of cases are among non-Hispanic blacks, who comprise 11.5% of the population [13]) and the 8.3 relative risk for blacks among AIDS patients not associated with either homosexuality or hemophilia (blacks comprise 52.0% of these cases). The data do not yet permit a detailed analysis of seroprevalence differences by Hispanic ethnicity. (4) The geographic distribution of seroprevalence among recruits is generally consistent with the incidence of cases, both by region and by urban versus rural residence. More detailed geographic analysis will be possible when cumulative data are available from screening additional recruits.

As in the case with serologically positive blood donors (14), recruit applicants with confirmed positive antibody are informed of their status and its implication regarding infection with HTLV-III/LAV; they are counseled on reducing the risk of transmission to others through sexual contact, sharing IV needles, or other exchanges of blood or body fluids.

Counseling and testing for HTLV-III/LAV antibody should be offered to persons who may have already been infected as a result of intimate contact with the seropositive recruit applicant (i.e., sexual partners, persons with whom needles have been shared, infants born to seropositive mothers). In addition, seropositive individuals should be interviewed by an experienced investigator to determine their risk factors for infection. This, coupled with observation on suitable controls, would facilitate determining modes of acquisition and evaluating current trends in risk of exposure to the virus in these populations.

The continued analysis of data emerging from the HTLV-III/LAV serologic screening of military recruit applicants will permit the examination of the extent and the trends over time of infection with the causative agent of AIDS in this sentinel population.

References

1. Peterman TA, Drotman DP, Curran JW. Epidemiology of the acquired immunodeficiency syndrome (AIDS). *Epidemiol Rev* 1985;7:1-21.
2. Phair J. Prevalence and correlates of HTLV-III antibodies among 5000 gay men in 4 cities. Multicenter AIDS Cohort Study (MACS) [Abstract]. 25th Interscience Conference on Antimicrobial Agents and Chemotherapy. Minneapolis: America Society for Microbiology, 1985:229.
3. Collier AC, Barnes RC, Handsfield HH. Prevalence of antibody to LAV/HTLV-III among homosexual men in Seattle. *Am J Public Health* 1986;76:564-5.
4. Schwartz K, Visscher BR, Detels R, Taylor J, Nishanian P, Fahey JL. Immunological changes in lymphadenopathy virus positive and negative symptomless male homosexuals: two years of observation [Letter]. *Lancet* 1985;ii:831-2.
5. Darrow WW, Jaffe HW, O'Malley PM, et al. Sexual practices and HTLV-III/LAV infections in a cohort of homosexual male clinic patients, San Francisco [Abstract]. 6th International Meeting of the International Society for STD Research. Brighton: International Society for STD Research, 1985:31.
6. Levy N, Carlson JR, Hinrichs S, Lerche N, Schenker M, Gardner MB. The prevalence of HTLV-III/LAV antibodies among intravenous drug users attending treatment programs in California: a preliminary report [Letter]. *N Engl J Med* 1986;314:446.
7. Weiss SH, Ginzburg HM, Goedert JJ, et al. Risk for HTLV-III exposure and AIDS among parenteral drug abusers in New Jersey [Abstract]. Atlanta: International Conference on Acquired Immunodeficiency Syndrome (AIDS), 1985:44.
8. Spira TJ, DesJarlais DC, Bokos D, et al. HTLV-III/LAV antibodies in intravenous drug (IV) abusers—comparison of high and low risk areas for AIDS [Abstract]. Atlanta: International Conference on Acquired Immunodeficiency Syndrome (AIDS), 1985:84.

HTLV-III/LAV - Continued

9. Ragni MV, Tegtmeyer GE, Handwerk-Leber C, Lewis JH, Mayer WL, Spero JA. Prevalence and sero-conversion of human T-lymphotropic retrovirus (HTLV-III) antibody in patients with hemophilia [Abstract]. Atlanta: International Conference on Acquired Immunodeficiency Syndrome (AIDS), 1985:74.
10. Jason J, McDougal JS, Holman RC, et al. Human T-lymphotropic retrovirus type III/lymphadenopathy-associated virus antibody. Association with hemophiliacs' immune status and blood component usage. JAMA 1985;253:3409-15.
11. Goedert JJ, Samgadharan MG, Eyster ME, et al. Antibodies reactive with human T cell leukemia viruses in the serum of hemophiliacs receiving factor VIII concentrate. Blood 1985;65:492-5.
12. Schorr JB, Berkowitz A, Cumming PD, Katz AJ, Sandler SG. Prevalence of HTLV-III antibody in American blood donors [Letter]. N Engl J Med 1985;313:384-5.
13. U.S. Bureau of the Census. Table 49: general characteristics of persons by Spanish origin and race: 1980. In: 1980 Census of Population. Volume 1: Characteristics of the Population. Washington, D.C.: U. S. Department of Commerce, 1980:1-52 (General population characteristics, [PC 80-1-B1] United States summary).
14. CDC. Provisional Public Health Service inter-agency recommendations for screening donated blood and plasma for antibody to the virus causing acquired immunodeficiency syndrome. MMWR 1985;35:1-5.

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	26th Week Ending			Cumulative, 26th Week Ending		
	June 28, 1986	June 29, 1985	Median 1981-1985	June 28, 1986	June 29, 1985	Median 1981-1985
Acquired immunodeficiency syndrome (AIDS)	256	85	N	6,146	3,604	N
Aseptic meningitis	168	206	145	2,424	2,198	2,198
Encephalitis: Primary (arthropod-borne & unsp.)	17	20	19	375	458	458
Post-infectious	2	1	3	54	70	54
Gonorrhea: Civilian	14,542	16,303	17,970	406,137	401,354	437,841
Military	390	271	400	7,794	9,280	11,879
Hepatitis: Type A	372	426	426	10,811	10,828	10,701
Type B	452	491	460	12,566	12,456	11,658
Non A, Non B	87	92	N	1,745	2,056	N
Unspecified	97	116	116	2,368	2,782	3,609
Legionellosis	20	5	N	266	329	N
Leprosy	6	14	7	135	196	118
Malaria	16	17	25	409	385	399
Measles: Total*	153	89	59	3,921	1,839	1,786
Indigenous	141	85	N	3,726	1,538	N
Imported	12	4	N	195	301	N
Meningococcal infections: Total	42	33	51	1,484	1,407	1,690
Civilian	42	33	51	1,482	1,402	1,675
Military	-	-	-	2	5	8
Mumps	118	41	47	2,258	1,910	2,083
Pertussis	44	38	35	1,270	845	845
Rubella (German measles)	6	51	33	292	369	669
Syphilis (Primary & Secondary): Civilian	489	547	571	12,431	12,395	14,905
Military	3	4	4	83	87	183
Toxic Shock syndrome	3	6	N	174	195	N
Tuberculosis	506	527	495	10,419	10,322	11,359
Tularemia	2	3	6	47	73	101
Typhoid fever	4	19	6	127	157	171
Typhus fever, tick-borne (RMSF)	45	34	45	249	243	354
Rabies, animal	82	109	109	2,666	2,546	3,159

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis (Tex 1, Calif 1)	20
Botulism: Foodborne	4	Plague	-
Infant (Tex 1, Calif 1)	27	Poliomyelitis, Paralytic	-
Other	1	Psittacosis (Upstate N.Y. 1, Oreg 1, Calif 1)	40
Brucellosis (Fla 1)	32	Rabies, human	-
Cholera	-	Tetanus (La 1)	23
Congenital rubella syndrome	2	Trichinosis (Tex 2)	18
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine) (N.Y. City 1, Va 1, Tex 2)	14
Diphtheria	-		

*Seven of the 153 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending June 28, 1986 and June 29, 1985 (26th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Chlamydia)		Hepatitis (Viral, by type)				Legionel- losis	Leprosy
			Primary	Post-in- fectious								
							A	B	NA,NB	Unspeci- fied		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	6,146	168	375	54	408,137	401,354	372	482	67	97	20	135
NEW ENGLAND	255	4	13	2	9,923	11,840	6	44	4	10	2	6
Maine	12	-	-	-	454	491	-	2	-	-	-	-
NH	6	-	2	-	247	246	-	-	-	-	-	-
VT	2	-	2	1	135	143	-	-	1	-	-	-
Mass	134	1	3	-	4,118	4,514	4	15	3	10	1	6
Conn	14	2	-	-	818	910	-	4	-	-	1	-
Rhode	87	-	6	1	4,151	5,536	2	23	-	-	-	-
MID ATLANTIC	2,417	9	53	5	68,678	60,610	22	36	2	31	-	11
District of Columbia	238	7	19	3	8,117	7,881	5	9	-	1	-	1
Maryland	1,648	2	12	-	39,856	30,521	-	5	1	30	-	9
Virginia	366	-	8	-	8,633	9,783	4	13	-	-	-	-
West Virginia	165	-	16	2	12,072	12,425	13	8	1	-	-	1
S. CENTRAL	372	20	84	8	54,273	56,422	23	47	6	4	9	4
Alabama	67	6	26	2	14,027	14,341	9	7	2	1	4	-
Arkansas	38	7	11	3	5,839	5,830	6	26	-	2	5	-
Louisiana	179	-	19	2	14,998	15,446	4	2	3	-	-	3
Mississippi	71	7	25	1	17,024	15,752	4	12	1	1	-	1
Texas	17	-	3	-	2,385	5,053	-	-	-	-	-	-
W. CENTRAL	114	5	11	8	18,217	19,982	11	6	5	-	1	2
California	47	1	7	-	2,490	2,956	4	2	-	-	-	1
Colorado	9	-	4	-	1,859	2,111	-	-	-	-	-	-
Idaho	35	1	-	-	9,360	9,461	3	4	4	-	1	-
Montana	2	-	-	-	155	139	-	-	-	-	-	-
Nebraska	1	1	-	-	379	362	1	-	-	-	-	-
North Dakota	9	-	-	1	1,780	1,778	-	-	-	-	-	-
South Dakota	15	2	-	7	2,698	3,155	3	-	1	-	-	1
S. ATLANTIC	771	37	54	17	97,998	87,921	43	92	18	6	3	1
Delaware	12	1	3	-	1,598	1,960	-	2	-	-	-	-
Florida	78	4	17	-	12,598	14,155	2	16	2	-	2	-
Georgia	112	-	-	-	8,178	7,168	-	3	1	-	-	-
Louisiana	85	5	17	1	8,742	9,056	7	9	2	1	1	1
North Carolina	3	1	7	-	1,166	1,243	-	1	-	-	-	-
South Carolina	38	3	8	1	16,472	16,547	-	5	5	1	-	-
Tennessee	20	-	-	-	9,611	10,749	1	9	-	1	-	-
Texas	89	9	-	1	9,359	-	4	19	1	-	-	-
Virginia	334	14	2	14	30,184	27,043	29	28	7	3	-	-
E. CENTRAL	83	11	28	3	34,327	34,182	6	29	3	3	-	1
Illinois	15	2	9	1	3,962	3,879	-	3	1	-	-	-
Indiana	46	2	3	1	13,349	13,717	5	18	1	3	-	-
Michigan	14	7	13	1	9,606	10,800	-	8	1	-	-	1
Minnesota	8	-	1	-	7,410	5,786	1	-	-	-	-	-
W. S. CENTRAL	452	49	30	3	50,791	54,100	36	49	10	21	2	10
Arizona	17	-	-	-	4,732	5,127	3	-	-	1	-	-
California	85	3	2	-	8,791	10,925	1	9	1	-	-	1
Colorado	20	4	9	-	5,704	5,695	6	9	1	1	2	-
Texas	330	42	28	3	31,584	32,353	25	31	8	19	-	9
MOUNTAIN	166	9	16	1	12,536	12,983	77	38	5	3	1	11
Montana	4	-	-	1	350	359	-	-	-	-	-	-
Idaho	1	-	-	-	430	418	-	-	-	-	1	-
Wyoming	4	-	2	-	288	312	-	-	-	1	-	-
Colorado	92	1	3	-	3,226	3,925	5	2	-	-	-	3
New Mexico	6	-	1	-	1,277	1,485	14	3	-	-	-	-
Arizona	39	5	7	-	4,083	3,860	52	21	4	2	-	5
Utah	8	1	2	-	541	555	1	2	-	-	-	1
Nevada	12	2	1	-	2,341	2,069	5	10	1	-	-	2
PACIFIC	1,516	24	79	7	59,394	63,334	149	112	14	19	2	89
Alaska	50	3	10	-	4,476	4,543	12	5	1	1	-	12
Oregon	34	-	-	-	2,366	3,081	22	8	1	-	1	-
California	1,407	17	67	7	50,387	53,321	115	96	12	18	1	61
Hawaii	9	-	2	-	1,471	1,486	-	3	-	-	-	-
Guam	16	4	-	-	694	903	-	-	-	-	-	16
Guam	-	-	-	-	74	81	-	-	-	-	-	1
P.R.	57	1	3	-	1,241	1,803	-	2	-	1	-	7
V.I.	2	-	-	-	115	247	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	188	502	2	-	-	3	-	18
American Samoa	-	-	-	-	22	-	1	1	-	-	-	-

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 28, 1986 and June 29, 1985 (26th Week)

Reporting Area	Malaria	Measles (Rubella)				Meningo- coccal infections	Mumps		Pertussis			Rubella			
		Indigenous		Imported *	Total										
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
UNITED STATES	409	141	3,728	12	195	1,839	1,484	118	2,258	44	1,270	845	6	292	369
NEW ENGLAND	26	12	53	-	4	119	108	-	43	1	61	42	-	8	9
Maine	1	2	2	-	-	-	23	-	-	-	2	3	-	-	-
N.H.	1	10	27	-	-	-	6	-	10	-	23	23	-	1	2
Vt.	1	-	-	-	-	-	14	-	2	-	3	2	-	-	-
Mass.	13	-	21	-	3	112	21	-	3	-	16	5	-	4	6
R.I.	4	-	2	-	-	-	15	-	9	-	1	4	-	2	-
Conn.	6	-	1	-	1	7	27	-	19	1	16	5	-	1	1
MID ATLANTIC	44	20	1,247	-	20	169	232	4	110	-	105	72	-	27	153
Upstate N.Y.	12	3	35	-	19	79	73	2	41	-	70	39	-	19	14
N.Y. City	11	10	314	-	1	46	45	-	5	-	3	9	-	5	116
N.J.	7	7	878	-	-	21	29	2	31	-	7	2	-	3	11
Pa.	14	-	22	-	-	23	85	-	33	-	25	22	-	-	12
E.N. CENTRAL	21	23	631	2	16	414	195	89	1,374	2	183	131	1	18	20
Ohio	6	-	-	2	10	45	82	-	89	-	74	18	-	-	-
Ind.	2	2	2	-	-	1	17	-	21	-	22	11	-	-	-
Ill.	7	12	409	-	3	259	49	89	916	1	22	20	1	12	5
Mich.	6	9	31	-	-	52	45	-	199	1	22	18	-	4	14
Wis.	-	-	189	-	3	57	2	-	149	-	43	64	-	2	1
W.N. CENTRAL	12	14	203	-	16	9	76	3	70	3	70	66	-	9	19
Minn.	4	3	40	-	4	4	16	-	1	-	31	15	-	-	2
Iowa	1	9	40	-	1	-	10	1	15	-	9	3	-	1	1
Mo.	4	2	17	-	6	2	25	2	14	-	5	13	-	1	7
N. Dak.	-	-	13	-	1	2	-	-	2	-	3	8	-	-	2
S. Dak.	-	-	-	-	-	-	4	-	1	3	11	1	-	-	-
Nebr.	2	-	-	-	-	-	8	-	-	-	-	4	-	-	-
Kans.	1	-	93	-	4	1	13	-	37	-	11	22	-	7	7
S. ATLANTIC	52	1	390	-	50	202	290	6	129	29	458	179	-	9	31
Del.	-	-	1	-	-	-	1	-	-	-	219	-	-	-	1
Md.	10	-	19	-	8	44	38	-	10	21	97	75	-	-	1
D.C.	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Va.	10	1	25	-	24	19	50	1	25	1	16	5	-	-	1
W. Va.	2	-	2	-	-	31	3	1	34	5	10	1	-	-	9
N.C.	4	-	1	-	1	9	48	1	12	2	20	9	-	-	-
S.C.	3	-	274	-	-	-	25	-	11	-	5	-	-	-	3
Ga.	5	-	56	-	14	8	45	-	12	-	74	57	-	-	-
Fla.	18	-	12	-	3	88	76	3	25	-	17	32	-	9	16
E.S. CENTRAL	11	15	43	-	-	1	83	1	20	1	22	9	-	1	2
Ky.	2	-	-	-	-	-	17	-	3	-	1	3	-	1	2
Tenn.	-	15	41	-	-	-	33	1	14	-	5	2	-	-	-
Ala.	6	-	-	-	-	-	23	-	2	1	16	2	-	-	-
Miss.	3	-	2	-	-	1	10	-	1	-	-	2	-	-	-
W.S. CENTRAL	35	10	506	-	28	266	121	5	137	2	96	133	-	52	22
Ark.	-	-	276	-	2	-	16	-	7	1	6	12	-	-	1
La.	4	1	2	-	-	32	17	-	2	1	6	5	-	-	-
Okl.	5	-	10	-	2	-	16	N	N	-	56	79	-	-	1
Tex.	26	9	218	-	24	234	72	5	128	-	28	37	-	52	20
MOUNTAIN	15	7	269	1	23	466	77	5	188	3	125	39	1	17	4
Mont.	-	-	1	-	7	137	7	-	5	-	5	3	-	1	-
Idaho	1	-	1	-	-	124	2	-	4	-	27	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	4	-	2	-	5	6	12	2	11	2	38	10	-	1	-
N. Mex.	1	-	26	1	6	3	6	N	N	1	12	5	-	-	2
Ariz.	5	7	238	-	5	196	15	3	156	-	28	13	1	2	1
Utah	2	-	1	-	-	-	11	-	9	-	14	8	-	10	-
Nev.	2	-	-	-	-	-	22	-	3	-	-	-	-	3	-
PACIFIC	193	39	384	9	38	193	304	5	187	3	150	174	4	151	109
Wash.	14	7	77	8	22	32	44	-	7	1	52	24	2	8	11
Oreg.	13	-	-	-	4	3	22	N	N	1	9	21	-	-	1
Calif.	166	32	288	1	11	140	228	5	166	-	82	115	2	141	63
Alaska	-	-	-	-	-	-	9	-	5	-	2	11	-	-	1
Hawaii	-	-	19	-	1	18	1	-	9	1	5	3	-	2	33
Guam	1	-	3	-	-	10	-	-	4	-	-	-	-	2	1
P.R.	4	-	18	-	-	46	2	-	20	-	7	5	-	58	21
V.I.	-	-	-	-	-	10	-	1	11	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	1	5	-	-	-	-	-	-
Amer Samoa	-	-	2	-	-	-	-	-	1	-	-	-	-	1	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable † International § Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
June 28, 1986 and June 29, 1985 (26th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	12,431	12,395	3	10,419	10,322	47	127	249	2,666
NEW ENGLAND	258	275	-	324	336	-	6	2	3
Maine	15	8	-	27	24	-	-	-	-
N.H.	10	6	-	9	14	-	-	-	-
Vt.	6	3	-	10	4	-	-	-	-
Mass	130	143	-	150	197	-	5	1	-
R.I.	16	7	-	24	32	-	-	-	1
Conn.	81	108	-	104	65	-	1	1	2
MID ATLANTIC	1,807	1,726	-	2,070	1,869	-	13	7	190
Upstate N.Y.	88	117	-	306	312	-	2	1	36
N.Y. City	1,020	1,066	-	1,027	940	-	5	2	-
N.J.	336	357	-	377	229	-	5	1	8
Pa.	363	186	-	360	388	-	1	3	146
E.N. CENTRAL	514	584	-	1,302	1,213	-	8	42	63
Ohio	70	74	-	214	213	-	1	41	5
Ind.	58	61	-	143	155	-	-	-	10
Ill.	284	303	-	574	536	-	1	1	20
Mich.	75	115	-	310	246	-	5	-	11
Wis.	27	31	-	61	63	-	1	-	17
W.N. CENTRAL	124	121	1	300	283	13	5	15	430
Minn.	20	28	-	78	58	-	1	1	45
Iowa	6	14	-	23	38	-	-	-	97
Mo.	68	55	-	148	132	10	4	5	48
N. Dak.	2	1	-	4	2	-	-	-	105
S. Dak.	2	4	-	13	15	2	-	3	89
Nebr.	11	6	1	5	9	-	-	3	9
Kans.	15	13	-	29	29	-	-	3	37
S. ATLANTIC	3,421	3,080	1	2,030	2,152	6	14	105	652
Del.	27	17	-	21	19	-	-	1	-
Md.	219	204	-	142	197	1	4	12	346
D.C.	169	184	-	70	94	-	1	-	-
Va.	200	155	1	173	187	2	3	19	98
W. Va.	11	8	-	59	50	-	2	4	13
N.C.	252	339	-	298	259	1	2	33	4
S.C.	314	399	-	264	297	-	-	29	23
Ga.	383	-	-	281	330	2	-	7	87
Fla.	1,846	1,774	-	722	719	-	2	-	81
E.S. CENTRAL	878	1,020	-	921	951	6	1	35	150
Ky.	43	34	-	231	207	2	-	5	50
Tenn.	322	297	-	283	296	3	-	15	56
Ala.	275	316	-	296	297	1	-	8	44
Miss.	238	373	-	111	151	-	1	7	-
W.S. CENTRAL	2,642	3,086	-	1,316	1,207	19	8	37	437
Ark.	133	160	-	173	128	11	-	2	108
La.	428	550	-	228	179	1	-	-	12
Okl.	70	90	-	117	133	5	1	28	37
Tex.	2,011	2,286	-	798	767	2	7	7	284
MOUNTAIN	301	392	1	234	248	2	7	6	416
Mont.	6	2	-	10	29	-	1	3	149
Idaho	5	3	-	10	11	-	-	-	-
Wyo.	-	6	-	-	5	-	-	1	194
Colo.	79	91	1	13	30	-	1	2	-
N. Mex.	40	62	-	53	49	1	-	-	4
Ariz.	131	203	-	112	105	-	2	-	68
Utah	9	4	-	21	6	1	2	-	-
Nev.	31	21	-	15	13	-	1	-	1
PACIFIC	2,486	2,111	-	1,922	2,063	1	65	-	325
Wash.	52	64	-	98	116	-	3	-	2
Oreg.	56	44	-	69	71	-	-	-	-
Calif.	2,357	1,960	-	1,626	1,715	-	58	-	315
Alaska	-	2	-	27	66	1	1	-	8
Hawaii	21	41	-	102	95	-	3	-	-
Guam	1	2	-	30	23	-	-	-	-
P.R.	438	409	-	147	164	-	3	-	25
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	144	49	-	28	35	-	39	-	-
Amer. Samoa	-	-	-	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
June 28, 1986 (26th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	653	442	117	45	29	20	65	S ATLANTIC	1,252	742	286	120	41	60	47
Boston, Mass.	185	113	35	20	7	10	30	Atlanta, Ga.	158	85	32	18	6	15	4
Bridgeport, Conn.	39	31	6	1	1	-	2	Baltimore, Md.	244	140	62	19	11	12	3
Cambridge, Mass.	39	38	3	-	-	-	5	Charlotte, N.C.	89	51	21	10	3	3	5
Fall River, Mass.	20	15	4	1	-	-	-	Jacksonville, Fla.	101	59	23	10	6	3	2
Hartford, Conn.	55	33	13	4	5	-	1	Miami, Fla.	104	62	24	16	-	2	1
Lowell, Mass.	27	19	4	2	1	1	2	Norfolk, Va.	44	23	12	5	1	3	5
Lynn, Mass.	10	7	2	1	-	-	-	Richmond, Va.	76	49	19	5	2	1	7
New Bedford, Mass.	15	13	1	1	-	-	2	Savannah, Ga.	39	24	8	-	-	-	-
New Haven, Conn.	42	28	7	3	3	1	3	St. Petersburg, Fla.	111	91	15	2	2	1	6
Providence, R.I.	83	53	17	3	5	5	7	Tampa, Fla.	75	49	15	5	1	4	6
Somerville, Mass.	3	2	1	-	-	-	-	Washington, D.C.	190	88	55	23	9	14	6
Springfield, Mass.	46	32	6	4	2	2	6	Wilmington, Del.	24	21	-	2	-	-	1
Waterbury, Conn.	30	19	7	1	2	1	2								
Worcester, Mass.	59	41	11	4	3	-	5	ES CENTRAL	802	496	193	58	29	28	46
MID ATLANTIC	2,583	1,608	605	239	70	61	110	Birmingham, Ala.	128	82	28	8	1	7	1
Albany, N.Y.	44	26	10	3	1	4	2	Chattanooga, Tenn.	63	44	11	7	1	-	9
Allentown, Pa.	21	17	3	1	-	-	-	Knoxville, Tenn.	76	52	18	4	2	-	3
Buffalo, N.Y.	105	79	18	4	1	3	7	Louisville, Ky.	127	74	33	5	11	4	9
Camden, N.J.	39	18	10	4	5	2	1	Memphis, Tenn.	138	86	35	8	5	4	12
Elizabeth, N.J.	22	16	6	-	-	-	-	Mobile, Ala.	95	53	23	11	3	5	5
Erie, Pa.	35	22	11	2	-	-	2	Montgomery, Ala.	54	36	11	4	1	2	2
Jersey City, N.J.	46	21	12	4	3	6	1	Nashville, Tenn.	123	69	34	9	5	6	5
N.Y. City, N.Y.	1,428	844	346	168	37	33	53	WS CENTRAL	1,289	772	282	130	55	50	46
Newark, N.J.	64	32	17	10	3	2	5	Austin, Tex.	65	43	5	8	4	5	2
Paterson, N.J.	21	11	4	5	1	-	2	Baton Rouge, La.	50	32	12	4	2	-	-
Philadelphia, Pa.	296	202	69	19	2	4	15	Corpus Christi, Tex.	51	29	11	6	4	1	2
Pittsburgh, Pa.	75	47	20	3	1	4	3	Dallas, Tex.	194	112	37	25	13	7	7
Reading, Pa.	34	24	5	3	2	-	3	El Paso, Tex.	71	46	15	7	1	2	3
Rochester, N.Y.	129	87	30	7	4	1	6	Fort Worth, Tex.	73	40	20	11	-	2	6
Schenectady, N.Y.	24	18	4	1	1	-	-	Houston, Tex.	302	172	77	33	11	9	5
Scranton, Pa.	12	11	1	-	-	-	-	Little Rock, Ark.	61	39	13	2	2	5	4
Syracuse, N.Y.	90	61	21	3	3	2	5	New Orleans, La.	115	54	28	16	5	12	-
Trenton, N.J.	32	19	9	1	3	-	-	San Antonio, Tex.	175	120	34	8	9	4	13
Utica, N.Y.	29	20	6	-	3	-	-	Shreveport, La.	44	29	8	3	1	1	2
Yonkers, N.Y.	37	33	3	1	-	-	5	Tulsa, Okla.	88	56	22	7	1	2	2
EN CENTRAL	2,215	1,422	469	163	71	90	81	MOUNTAIN	627	380	134	50	33	30	26
Akron, Ohio	56	38	6	4	3	5	-	Albuquerque, N.Mex.	89	57	14	10	5	3	5
Canton, Ohio	28	16	6	5	1	-	1	Colorado Springs, Colo.	32	26	1	2	3	-	3
Chicago, Ill.	564	362	125	45	10	22	16	Denver, Colo.	112	66	21	13	4	8	2
Cincinnati, Ohio	131	87	27	7	6	4	10	Las Vegas, Nev.	83	48	27	3	3	2	6
Cleveland, Ohio	168	101	37	14	6	10	1	Ogden, Utah	24	15	5	2	2	-	1
Columbus, Ohio	131	88	31	6	5	1	4	Phoenix, Ariz.	118	56	30	10	9	13	3
Dayton, Ohio	110	77	27	5	1	-	1	Pueblo, Colo.	20	16	3	1	-	-	1
Detroit, Mich.	244	128	53	36	12	15	7	Salt Lake City, Utah	55	34	8	3	7	3	1
Evansville, Ind.	27	18	6	1	-	2	-	Tucson, Ariz.	94	62	25	6	-	1	4
Fort Wayne, Ind.	74	49	15	3	2	5	8	PACIFIC	1,864	1,176	371	202	63	49	97
Gary, Ind.	15	7	5	2	-	1	-	Berkeley, Calif.	18	12	2	3	1	-	-
Grand Rapids, Mich.	52	33	11	5	3	-	1	Fresno, Calif.	105	69	14	7	4	11	5
Indianapolis, Ind.	177	105	32	18	11	11	2	Glendale, Calif.	35	28	5	2	-	-	1
Madison, Wis.	34	22	6	2	2	2	6	Honolulu, Hawaii	62	33	15	7	6	1	3
Milwaukee, Wis.	113	89	19	2	1	2	2	Long Beach, Calif.	69	43	19	3	2	2	8
Peoria, Ill.	51	35	7	5	1	3	2	Los Angeles, Calif.	540	334	111	71	15	6	18
Rockford, Ill.	55	31	14	2	3	5	8	Oakland, Calif.	45	28	6	4	4	3	2
South Bend, Ind.	43	32	10	-	1	-	5	Pasadena, Calif.	31	22	6	2	-	1	2
Toledo, Ohio	96	68	23	1	2	2	6	Portland, Oreg.	132	91	20	11	4	6	4
Youngstown, Ohio	46	36	9	-	1	-	1	Sacramento, Calif.	137	87	30	9	7	4	12
WN CENTRAL	714	469	148	47	21	29	36	San Diego, Calif.	135	81	32	12	7	3	22
Des Moines, Iowa	55	36	18	1	-	-	4	San Francisco, Calif.	156	94	28	29	4	1	7
Duluth, Minn.	25	18	3	3	-	1	1	San Jose, Calif.	168	107	37	15	4	3	9
Kansas City, Kans.	40	24	6	6	2	2	2	Seattle, Wash.	135	85	25	16	4	5	2
Kansas City, Mo.	138	92	27	8	9	2	7	Spokane, Wash.	48	27	13	7	-	2	1
Lincoln, Neb.	20	10	6	1	-	3	-	Tacoma, Wash.	49	35	8	4	1	1	1
Minneapolis, Minn.	77	47	22	5	1	2	1								
Omaha, Neb.	78	52	21	2	1	2	6	TOTAL	11,999†	7,507	2,605	1,052	412	417	554
St. Louis, Mo.	131	89	18	11	5	8	8								
St. Paul, Minn.	65	45	12	1	2	5	1								
Wichita, Kans.	85	56	15	9	1	4	6								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

*Epidemiologic Notes and Reports***Fatality at a Waterslide Amusement Park — Utah**

On August 16, 1985, a 14-year-old male, his younger brother, and two friends went swimming at a large waterslide amusement park in Ogden, Utah. The children were playing in one of the slide-receiving pools (splash pool) where the depth was 4 feet. The 14-year-old (weight 134 lbs. [61.0 kg.], height 5 ft., 2 in. [1.59 meters]) was hanging onto the pool edge, dangling his feet over the submerged opening of the middle of three drain pipes, when he let go and disappeared into the pipe. Once inside the pipe, he was carried horizontally 93 feet, where he lodged in a 90-degree vertical bend inside the pumphouse (Figure 1). After 15 minutes, he was located, but resuscitation attempts were unsuccessful. An autopsy determined the cause of death as drowning.

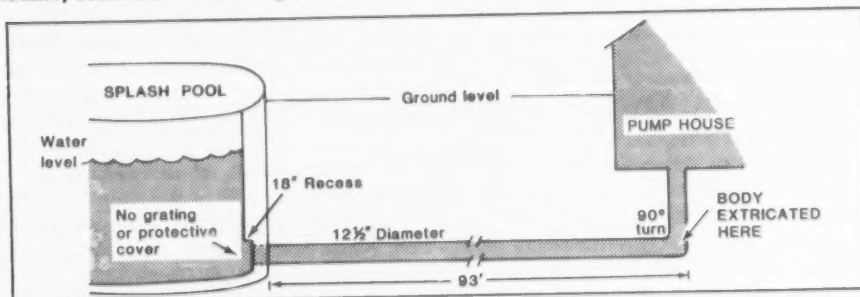
The waterslide park was constructed in 1984. Water from all six slides in the park drained into the splash pool where the boy was playing. The water then traveled by gravity through the three 12½-inch diameter polyvinyl pipes to a pumphouse where it was pumped to the top of the slides. The pipes were located in the side of the pool beneath a recessed overhang. The pipes were located in the side of the pool beneath a recessed overhang. Park employees reported that the cast iron grates covering the pipe inlets repeatedly fell off during the early part of the summer of 1985 because the cement eroded and, thus, was inadequate for holding the anchoring screws. As a result, the grates were removed. There were no other design features of the drainage system to prevent entry into the pipes.

Lifeguards were on duty at the time of the incident. The park was the seventh waterslide park designed by a company in Washington State, and its design met all local and state standards at the date of its opening in 1984. However, the park performed no routine checks of safety items.

An investigation of the death was led by the Weber-Morgan District Health Department, which had the statutory responsibility under Utah Code to "identify injury problems and develop standards for the correction and prevention of future occurrences." The final health department recommendations were (1) any drainage pipe with a diameter greater than 6 inches must have protective grating and backup entrapment prevention features that are approved by the health department before installation; (2) grates must be attached by a corrosive-resistant, secure anchoring system and must be attached so they cannot be removed by bathers; and (3) there must be a written record documenting monitoring of pool safety features.

Reported by M Nichols, MD, C Heninger, R Schwartz, O Orton, Weber-Morgan District Health Dept, S Patterson, Building Inspection, S VandeHeide, Sheriff's Dept, V Gabrenas, Attorney's Office, Weber County, F Jackson, Utah Dept of Health; H Walters, Intermountain Region, US Forest Svc; Div of Injury Epidemiology and Control, Center for Environmental Health, CDC.

FIGURE 1. Schematic of splash-pool drain pipe at waterslide amusement park where fatality occurred — Utah, August, 16, 1985



Waterslide Fatality — Continued

Editorial Note: According to the U.S. Consumer Product Safety Commission (CPSC), this is the third reported death associated with a waterslide amusement park. The first death reported to the CPSC occurred in 1980 and was similar to that reported here: a 13-year-old male became entrapped in an 8-inch by 24-inch pool drain. The other reported fatality was a 35-year-old male who fell off a corkscrew turn in a waterslide.

In most waterslide splash pools, the drainage pipe inlet is too small to allow entrapment. Because six slides were installed, a large volume of water was recirculated, and the pipes draining the Ogden waterslide were unusually large. A safer alternative design would be to have more pipes with smaller diameter.

This problem extends beyond waterslide amusement parks. Since 1983, CPSC has received 10 reports of serious injury and three reported deaths associated with swimming-pool or hot-tub drainage systems. All 13 reports involved children 14 years of age or younger. In six of these incidents, including all three fatalities, the cover to the drain pipe had been removed. In all 13 incidents, the suction holding the child against the drain pipe opening or entangling hair was the primary cause of injury.

Recirculation and drainage systems may remain a source of serious injuries or deaths unless operators ensure that all drainage or recirculation pipes are adequately covered at all times to prevent the possibility of entrapment. Also, adequate safety standards for the design and operation of recreational waterslides, spas and hot tubs, and swimming pools should be adopted by state and local authorities. These standards should focus in particular on proper design features to prevent injuries caused by entrapment.

*International Notes***Bat Rabies — Europe**

On September 10, 1985, a woman in Denmark was bitten on the finger by an ill-appearing European house bat (*Eptesicus serotinus*) that was captured and later found to be rabid (1). This is the first report of rabies virus isolation in bats in Denmark. Subsequently, between September and November 1985, 34 ill bats were submitted for rabies examination to the State Veterinary Serum Laboratory. Ten were positive by fluorescent antibody techniques, and the same rabies virus strain was isolated from nine of these (1,2). All these isolates were from *E. serotinus*, the most common of the 14 insectivorous bat species in Denmark.

On October 29, 1985, the first human case of rabies reported in Finland since 1934 was diagnosed in a 30-year-old bat zoologist residing in Helsinki; animal rabies had last been reported in Finland in 1959. The zoologist had been bitten several times by bats while in Malaysia 4½ years earlier; in Switzerland 1 year earlier; and, most recently, in Finland 51 days before the onset of neurologic symptoms. He reported no other animal bites (3,4). Although the zoologist worked with the nine bat species found in Finland, he had received neither preexposure nor postexposure immunization against rabies. A virus isolate was obtained post-mortem from a brain specimen.

Before 1985, rabies virus had been isolated from only three bats (of unknown species) in Europe, all in the northern part of the Federal Republic of Germany between 1968 and 1982 (5). These virus isolates differed from common isolates found in terrestrial animals in Europe but closely resembled two rabies-like viruses from Africa, one of human origin (Duvenhage) and one of bat origin (6). Whether the viruses were inadvertently imported from Africa via migrating bats or other means has not been established.

Bat Rabies — Continued

As a result of these episodes, CDC conducted studies to characterize the Danish and Finish virus isolates and to determine whether the Danish bat virus isolates were infectious for experimental animals and whether conventional rabies vaccines could protect against them. Characterization of the European viruses by a monoclonal antibody panel indicated that the Danish isolates were different from terrestrial isolates in Europe but identical to the strains isolated from bats in Germany (6). The viruses were similar to the Duvenhage strain first isolated in Africa. Virus isolated from the brain of the Finish zoologist was also characterized by monoclonal antibodies and found to be different from both the European bat isolates and the Duvenhage strain. Experimentally, the Danish bat viruses readily infected mice by the intracerebral, footpad, and oral routes; dogs, by the intracerebral route; and cats, by the intramuscular and intracerebral routes. A human diploid cell vaccine (IMOVAX*), and an animal vaccine (RABISIN*) protected mice against challenges with the Danish bat viruses. Further characterization of the Finnish isolate is in progress.

Reported by V Bitsch, DVM, State Veterinary Serum Laboratory, J Westergaard, DVM, Danish Veterinary Svcs, Copenhagen, Denmark; M Valle, MD, National Public Health Institute, Helsinki, Finland; Viral and Rickettsial Zoonoses Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: In 1985, 829 bats were reported rabid in the United States. In contrast, only 18 rabid bats were reported in Europe between 1954 and 1985 (1,2,5). Although the first case of bat rabies was reported in Europe in 1954, bats have not been examined routinely for rabies in European countries. The few reported cases of bat rabies may not be indicative of their importance in Europe.

Human rabies caused by exposure to insectivorous bats has been reported in Canada, the United States, and some Latin American countries (7). No cases of human rabies have been known to follow exposures to bats in Europe, with the probable exception of the recent case in Finland. Between 1977 and 1985, 30 cases of human rabies, all from sources other than bats, were reported in Europe; six were imported cases (8,9).

Because of the paucity of information on bat rabies in Europe, an informal World Health Organization (WHO) meeting was held in Marburg, Germany, in May 1986. The consensus of the representatives from Denmark, Finland, France, Germany, Poland, Switzerland, CDC, and WHO was that all persons who work with bats in Europe should receive preexposure rabies vaccination, and all persons bitten by bats should receive postexposure treatment according to previously published standard immunization schedules (10,11). Bat rabies surveillance has been initiated in all the European countries represented at the meeting.

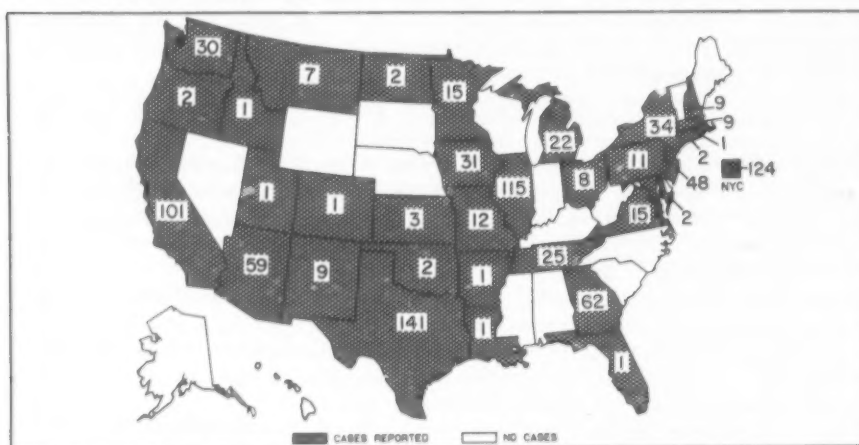
References

1. Mollgaard S. Bat-rabies in Denmark. In: WHO Collaborating Centre for Rabies Surveillance and Research, ed. Rabies Bull Europe. Information Surveillance Research. Geneva: World Health Organization, 1985;9(3):8.
2. Mollgaard S. Bat-rabies in Denmark (DEN). In: Who Collaborating Centre for Rabies Surveillance and Research, ed. Rabies Bull Europe. Information Surveillance Research. Geneva: World Health Organization, 1985;9(4):11.
3. Berger R. A human rabies case in Finland possibly of bat origin. In: Who Collaborating Centre for Rabies Surveillance and Research, ed. Rabies Bull Europe. Information Surveillance Research. Geneva: World Health Organization, 1985;9(4):12.
4. Lumio J, Hillborn M, Roine R, et al. Human rabies of bat origin in Europe. *Lancet* 1986;1:378.
5. WHO. Miscellaneous: a new case of bat rabies in Germany (DEW). Rabies Bull Europe. Information Surveillance Research. Geneva: World Health Organization, 1982;6(4):17-8.
6. Schneider LG, Barnard BJH, Schneider HP. Application of monoclonal antibodies for epidemiological investigations and oral vaccination studies. I. African viruses. In: Rabies in the Tropics, E Kuwert, C Merieux, H Koprowski, K Bogel eds. Berlin, Germany: Springer-Verlag, 1985:47-53.
7. WHO. Control of rabies in wildlife. Bats. In: WHO Expert Committee on Rabies. Seventh report. Geneva: World Health Organization, 1984:65 (Technical report series 709).

*Use of trade names is for identification only and does not imply endorsement by the U.S. Public Health Service or the U.S. Department of Health and Human Services.

Bat Rabies — Continued

8. WHO. Miscellaneous: human rabies cases in Europe. In: Who Collaborating Centre for Rabies Surveillance and Research, ed. Rabies Bull Europe. Information Surveillance Research. Geneva: World Health Organization, 1984;8(4):12.
9. WHO. Table 2. In: Who Collaborating Centre for Rabies Surveillance and Research, ed. Rabies Bull Europe. Information surveillance research. Geneva: World Health Organization, 1985;9(4):14.
10. WHO. Prevention of rabies in man. In: WHO Expert Committee on Rabies. Seventh report. Geneva: World Health Organization, 1984:27-34. (Technical report series 709).
11. ACIP. Rabies prevention—United States, 1984. MMWR 1984;33:393-402, 407-8.

FIGURE I. Reported measles cases — United States, weeks 22-25, 1986

Director, Centers for Disease Control
James O. Mason, M.D., Dr.P.H.
Director, Epidemiology Program Office
Carl W. Tyler, Jr., M.D.

Editor
Michael B. Gregg, M.D.
Assistant Editor
Karen L. Foster, M.A.

U.S. Government Printing Office: 1986-746-149/40010 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS
Penalty for Private Use, \$300

BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26

NEWARK PUBLIC LIBRARY
NEWARK, NJ 07101
JUL 22 1986
U. S. GOVT. PUBS.
DEPOSITORY 375

NEWARK PUBLIC LIBRARY
NEWARK, NJ 07101
JUL 22 1986
U. S. GOVT. PUBS.
DEPOSITORY 375

NEWARK PUBLIC LIBRARY
NEWARK, NJ 07101
JUL 22 1986
U. S. GOVT. PUBS.
DEPOSITORY 375

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 433 Update: Influenza Activity — Worldwide
- 434 Importance of Proper Protective Clothing During Cleanup of a Hazardous-Waste Site — Pennsylvania
- 435 Carbon Monoxide Exposures at an Ice Skating Rink — Colorado
- 441 Behavioral Risk-Factor Surveillance in Selected States — 1985

Update: Influenza Activity — Worldwide

Influenza A(H3N2) and Influenza B. During the winter of 1985-1986, influenza outbreaks in the Northern Hemisphere were associated primarily with virus types A(H3N2) and B, as they were in the United States. Both influenza A(H3N2) and B have been reported from Western Europe (France, the Federal Republic of Germany, Italy, the Netherlands, Switzerland, and the United Kingdom) and Scandinavia (Denmark, Finland, Norway, and Sweden) and from the Union of Soviet Socialist Republics (USSR), Eastern Europe, and the Balkans (Czechoslovakia, Hungary, Poland, and Yugoslavia). Influenza A(H3N2) was reported from Belgium, Bulgaria, and Greece. Influenza B was reported from the German Democratic Republic. Elsewhere in the Northern Hemisphere, influenza A(H3N2) virus was isolated in the People's Republic of China (PRC), the Democratic People's Republic of Korea, Hong Kong, and Japan; influenza B was isolated in the PRC, Iran, Israel, the Republic of Korea, and Tunisia. Thus far during 1986, occasional isolations of influenza A(H3N2) and B have been reported from the Southern Hemisphere. A single influenza A(H3N2) isolate was reported from Australia in April. Both influenza A(H3N2) and B viruses were reported from New Guinea in February, and influenza B was reported from Madagascar in March and from Taiwan in April.

Influenza A(H1N1). During the winter of 1985-1986, influenza A(H1N1) viruses were infrequently reported from Bulgaria, Czechoslovakia, the USSR, the Democratic People's Republic of Korea, and the PRC. However, since late March, influenza A(H1N1) has been increasingly reported from areas of Southeast Asia. Malaysia and Hong Kong have experienced localized outbreaks, and Singapore and Taiwan have reported regional epidemics of influenza A(H1N1).

Reported by National Influenza Centers, Microbiology and Immunology Support Svcs, World Health Organization, Geneva; WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: The occurrence of influenza in the tropics and the Southern Hemisphere between April and September frequently indicates the influenza type that may occur in the Northern Hemisphere during the subsequent winter. The recent increase in circulation of influenza A(H1N1) virus in Southeast Asia suggests that it may appear in the United States during the 1986-1987 influenza season after an almost total absence during the last two seasons. In 1977, influenza A(H1N1) circulated widely in humans for the first time in 20 years and was associated with outbreaks in children and young adults. Persons born before the mid-1950s have generally been protected, presumably due to immunity to the virus developed earlier in life. Because it is unknown whether A(H1N1) viruses will evolve into variants capable of causing severe illness in the elderly, current influenza vaccines are formulated to include an A(H1N1) strain, in addition to influenza A(H3N2) and influenza B. Surveillance from countries outside Southeast Asia will provide further information during the next few months.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

HE 20.7009:35/27

Influenza — Continued

as to the relative circulation of influenza A(H1N1) viruses compared with influenza A(H3N2) and influenza B strains. The recommendations for the use of available vaccines and the antiviral agent amantadine were recently published (1).

Reference

1. ACIP. Prevention and control of influenza. MMWR 1986;35:317-26,331,419.

Importance of Proper Protective Clothing During Cleanup of a Hazardous-Waste Site — Pennsylvania

The unauthorized dumping of hazardous-waste materials at various locations throughout the country has resulted in toxic exposures in the surrounding areas. On October 11, 1983, three workers employed to clean up a hazardous-waste dump site in Pennsylvania complained of dizziness, nausea, and headaches. One of the workers was hospitalized for observation and was later released. The Environmental Protection Agency (EPA) requested an investigation by the National Institute for Occupational Safety and Health (NIOSH) (1).

This site contained approximately 650 55-gallon drums that had been dumped without authorization at a former municipal landfill in the state. At the time of cleanup, most drums were crushed, perforated, riddled with bullet holes, and in various stages of decay. The cleanup involved removing these drums to an area where their contents could be tested for further disposal.

During the cleanup operation, each worker wore borrowed polyvinyl chloride (PVC) clothing and a self-contained breathing apparatus (SCBA) for protection. All three workers noticed a "sweet" smell as they worked. The SCBAs were new, and in a thorough evaluation after the incident, each was found to be functioning properly.

On October 12, analytical chemists from NIOSH evaluated several specimens from the outside of the protective clothing of the hospitalized worker. The primary contaminants were identified as methyl ethyl ketone, methyl isobutyl ketone (MIBK), toluene, and xylene. Swab samples from inside this worker's protective clothing showed the presence of MIBK. Based on these findings, NIOSH recommended that a less permeable type of protective clothing be used. The recommendation was implemented, and no further incidents were reported.

Reported by Agency for Toxic Substances and Disease Registry; Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, Measurements Research Support Br, Div of Physical Sciences and Engineering, Injury Prevention Research Br, Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Such unauthorized dumping of hazardous-waste materials as reported here results in toxic exposures, not only to the surrounding community, but also to workers employed to clean up these sites. To protect workers at hazardous-waste sites, an extensive health and safety program is required that includes environmental monitoring, proper use of protective equipment, good work practices, selected engineering controls, and appropriate medical monitoring (2). As part of an interagency agreement with the Agency for Toxic Substances and Disease Registry, NIOSH evaluates occupational safety and health programs that have been implemented for selected hazardous-waste sites around the country. The cleanup personnel at the site discussed above were under contract with EPA.

Previous studies by NIOSH at hazardous-waste sites have documented only low-level air exposures to a variety of contaminants (3-4). These evaluations, however, did not assess high, short-term air and skin exposures from splashing.

During this cleanup all three workers were wearing PVC protective clothing that has been shown to be quite permeable to most organic solvents. Therefore, the repeated contact with the solvents present at this site probably led to their permeating the clothing and being ab-

Proper Protective Clothing — Continued

sorbed through the skin. The symptoms (dizziness, nausea, headaches) these workers experienced are compatible with acute exposure to these solvents. Additionally, although the SCBAs used in the present incident were working properly, improper wearing or fitting of the devices may have resulted in leakage of air contaminants around the mask and into the workers' breathing zones.

References

1. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 84-010-1445. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1984.
2. National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, U.S. Coast Guard, U.S. Environmental Protection Agency. Occupational safety and health guidance manual for hazardous waste site activities. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1985. (HHS [NIOSH] publication no. 85-115.)
3. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 83-417-1357. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1983.
4. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 80-077-853. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1981.

Carbon Monoxide Exposures at an Ice Skating Rink — Colorado

In April 1984, the Pitkin County (Colorado) Health Department (PCHD) asked the National Institute for Occupational Safety and Health (NIOSH) to evaluate the potential hazard associated with carbon monoxide (CO) exposure at an indoor ice skating rink during the operation of gasoline-powered ice-resurfacing machines (1). A previous survey done by the PCHD had shown that the CO concentration in air was an 8-hour time-weighted average (TWA) of 53.8 parts per million (ppm) and a 1-hour reading of 80.5 ppm. The Occupational Safety and Health Administration (OSHA) maximum acceptable level for CO exposure is an 8-hour TWA of 50 ppm. The NIOSH-recommended level is an 8-hour TWA of 35 ppm, with a 200 ppm ceiling limit.*

NIOSH investigators collected air samples during the operation of both an old and a new resurfacing machine. CO measurements were made with an Ecolyzer[†] CO analyzer and direct-reading detector tubes. Air samples collected at the edge of the rink showed CO concentrations of 55 ppm and 65 ppm when the new ice resurfacer was run and concentrations of 90 ppm when the old resurfacer was in operation. Measurements taken with sampling equipment located on the machines themselves showed peak levels of 250-400 ppm (average 140-175 ppm) for the new machine and 500 ppm (average 200 ppm) for the older machine.

CO exposures for individual workers were monitored by determining concentrations of CO in expired air. Six workers and two county sanitarians were monitored. An initial test was performed before the first ice resurfacing of the day (8 a.m.), and afternoon tests took place between 1 p.m. and 2 p.m. The worker who operated the ice-resurfacing machines was given several tests in between. Workers were also asked about their smoking habits and current symptoms. Of the eight persons monitored, six were nonsmokers, and the other two—an occasional cigarette smoker and a pipe smoker—had not smoked on the day of the test.

Initial CO concentrations in the exhaled air of the eight subjects averaged 12.1 ± 2.5 ppm, which corresponds to $2.3\% \pm 0.7\%$ carboxyhemoglobin (COHb). (The average COHb level for a nonsmoker is 1.0% [2].) CO concentrations in expired air rose during the day for all eight subjects. The smallest rise—equivalent to 1.0% COHb—was for an individual who ar-

*The NIOSH-recommended exposure level should be lowered appropriately at very high altitudes—5,000-8,000 feet above sea level—to compensate for a decrease in the available oxygen.

[†]Use of trade names is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Carbon Monoxide Exposures — Continued

rived after the first resurfacing. The highest—4.7%—was for the worker who operated the resurfacing machines. Concentrations of exhaled CO at the end of the day averaged 26.3 ± 4.7 ppm for the seven individuals who were in the building all day. This corresponds to $5.7 \pm 1.0\%$ COHb and represents a rise in COHb of $3.3\% \pm 1.2\%$. None of these values differed significantly from the average level at the 95% confidence interval.

Reported by Pitkin County Health Dept, Aspen NIOSH Region 8 Office, Denver, Colorado; Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: The principal toxic effect of CO is tissue hypoxia (3). Inhaled CO causes hypoxia by binding tightly with circulating hemoglobin to produce COHb, thus reducing the capacity of the blood to transport oxygen (4,5). The heart and brain are the tissues most severely affected by CO-induced hypoxia. A considerable body of evidence links CO exposure to altered hemodynamics. Exercise studies in normal adult subjects show that venous oxygen tension is decreased during exposure to CO and that heart rate, cardiac output, and coronary artery blood flow are all increased compared with preexposure values (6,7).

While nonsmokers who have not been exposed to other sources of CO have an average COHb level of 1% (2), nonsmokers who are exposed to 50 ppm CO (the OSHA standard) for 6-8 hours have COHb levels of 8%-10%. NIOSH bases its recommended exposure limit of 35 ppm for an 8-hour TWA and its ceiling of 200 ppm on the concentration needed to produce a

(Continued on page 441)

TABLE 1. Summary—cases specified notifiable diseases, United States

Disease	27th Week Ending			Cumulative, 27th Week Ending		
	July 5, 1986	July 6, 1985	Median 1981-1985	July 5, 1986	July 6, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	180	149	N	6,325	3,753	N
Aseptic meningitis	165	133	206	2,601	2,331	2,366
Encephalitis: Primary (arthropod-borne & unsp.)	23	22	24	399	480	480
Post-infectious	2	3	3	56	73	54
Gonorrhea: Civilian	15,577	14,373	15,021	428,299	415,727	452,862
Military	217	320	369	8,013	9,600	12,374
Hepatitis: Type A	380	358	367	11,199	10,986	10,986
Type B	441	404	404	13,010	12,860	12,063
Non A, Non B	54	84	N	1,803	2,140	N
Unspecified	93	138	138	2,458	2,920	3,710
Legionellosis	15	14	N	283	343	N
Leprosy	4	3	5	139	199	123
Malaria	32	44	34	442	429	429
Measles: Total*	138	65	44	4,085	1,904	1,904
Indigenous	133	56	N	3,883	1,594	N
Imported	5	9	N	202	310	N
Meningococcal infections: Total	33	27	44	1,514	1,434	1,734
Civilian	33	27	44	1,512	1,429	1,719
Military	-	-	-	2	5	8
Mumps	161	40	40	2,429	1,950	2,122
Pertussis	48	43	43	1,332	888	888
Rubella (German measles)	6	13	18	298	362	687
Syphilis (Primary & Secondary): Civilian	352	384	471	13,071	12,779	15,376
Military	-	7	5	92	94	193
Toxic Shock syndrome	4	10	N	178	205	N
Tuberculosis	378	303	377	10,800	10,626	11,695
Tularia	2	8	7	49	81	103
Typhoid fever	4	5	5	131	162	176
Typhus fever, tick-borne (RMSF)	36	24	53	285	267	407
Rabies, animal	58	105	105	2,873	2,651	3,277

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	20
Botulism: Foodborne (Alaska 1)	5	Plague (N Mex. 1)	2
Infant	27	Polio myelitis, Paralytic	-
Other	1	Psittacosis (Conn. 1, Mich. 1)	42
Brucellosis (Tex 2)	34	Rabies, human	-
Cholera	-	Tetanus	23
Congenital rubella syndrome	2	Trichinosis (D.C. 1)	17
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine) (Tex. 1)	15
Diphtheria	-		

*Two of the 138 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending
July 5, 1986 and July 6, 1985 (27th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral): by type				Legionnaires Disease	Leprosy
			Primary	Post-infectious			A	B	NA/NB	Unspecified		
	Cum 1986	1986	Cum 1986	Cum 1986	Cum 1986	Cum 1985	1986	1986	1986	1986	1986	Cum 1986
UNITED STATES	6,325	165	399	56	428,299	415,727	380	441	54	93	15	139
NEW ENGLAND	258	3	14	2	10,148	12,239	10	24	3	4	-	6
Maine	12	-	-	-	463	507	-	-	1	-	-	-
N.H.	6	1	2	-	256	257	-	2	-	-	-	-
Vt.	2	2	2	1	141	149	-	1	1	-	-	-
Mass.	134	-	3	-	4,240	4,683	6	14	1	4	-	6
R.I.	17	-	-	-	867	927	1	2	-	-	-	-
Conn.	87	-	7	1	4,181	5,716	3	5	-	-	-	-
MID ATLANTIC	2,452	18	56	6	72,361	63,566	25	56	3	40	-	11
Upstate N.Y.	234	12	21	4	8,558	8,269	11	18	2	1	-	1
N.Y. City	1,653	6	13	-	42,177	32,071	-	7	-	36	-	9
N.J.	400	-	6	-	9,403	10,334	6	11	1	2	-	-
Pa.	165	-	16	2	12,223	12,892	8	20	-	1	-	1
E.N. CENTRAL	378	17	90	8	56,294	58,567	12	52	6	2	2	4
Ohio	67	6	28	2	14,354	14,599	3	15	3	-	1	-
Ind.	40	4	15	3	6,420	6,003	3	8	1	-	-	-
Ill.	183	-	19	2	15,733	16,392	4	2	1	-	-	3
Mich.	71	7	25	1	17,361	16,283	2	27	1	2	1	1
Wis.	17	-	3	-	2,426	5,290	-	-	-	-	-	-
W.N. CENTRAL	117	1	11	8	18,932	20,344	8	14	2	2	1	2
Minn.	47	-	7	-	2,574	2,956	1	5	-	-	-	1
Iowa	9	-	4	-	1,916	2,190	-	1	1	-	-	-
Mo.	37	-	-	-	9,666	9,731	5	7	1	2	-	-
N. Dak.	2	-	-	-	167	139	-	-	-	-	-	-
S. Dak.	1	-	-	-	378	374	1	-	-	-	-	-
Nebr.	5	-	-	1	1,372	1,799	-	-	-	-	-	-
Kans.	16	-	-	7	2,859	3,155	1	1	-	-	1	1
S. ATLANTIC	821	27	56	18	107,595	89,984	34	92	5	2	3	1
Del.	12	-	3	-	1,782	2,030	2	-	-	-	-	-
Md.	78	4	17	-	13,033	14,721	2	11	-	-	1	-
D.C.	112	2	-	-	8,457	7,446	-	3	-	-	-	-
Va.	85	1	18	1	8,977	9,267	-	1	-	-	-	1
W. Va.	3	1	8	-	1,194	1,281	1	5	1	-	-	-
N.C.	38	9	8	1	16,875	16,770	1	13	-	-	-	-
S.C.	21	-	-	-	9,988	11,079	1	20	1	-	-	-
Ga.	138	1	-	1	15,862	-	2	10	-	-	-	-
Fla.	334	9	2	15	31,427	27,390	25	29	3	2	2	-
E.S. CENTRAL	85	20	26	3	35,535	35,761	6	21	2	2	1	1
Ky.	17	5	9	1	4,043	4,030	1	2	-	-	1	-
Tenn.	46	1	3	1	13,819	14,261	1	1	1	1	-	-
Ala.	14	9	13	1	10,006	11,418	-	15	-	-	-	1
Miss.	8	5	1	-	7,667	6,052	4	3	1	1	-	-
W.S. CENTRAL	451	42	45	3	52,673	55,744	49	42	4	20	4	10
Ark.	17	-	-	-	4,869	5,295	5	-	1	1	-	-
La.	84	2	2	-	9,594	11,155	1	6	-	-	-	1
Okla.	20	-	12	-	5,919	5,860	2	2	1	1	1	-
Tex.	330	40	31	3	32,291	33,434	41	34	2	18	3	9
MOUNTAIN	179	7	16	1	13,056	13,492	38	24	8	3	-	11
Mont.	4	1	-	1	358	367	1	-	-	-	-	-
Idaho	2	2	-	-	445	438	6	2	-	-	-	-
Wyo.	4	-	2	-	291	344	-	-	-	-	-	-
Colo.	92	3	3	-	3,373	4,056	6	6	2	2	-	3
N. Mex.	11	-	1	-	1,308	1,523	-	1	-	1	-	-
Ariz.	46	-	7	-	4,305	3,968	23	9	5	-	-	5
Utah	8	1	2	-	565	583	2	6	1	-	-	1
Nev.	12	-	1	-	2,411	2,213	-	-	-	-	-	2
PACIFIC	1,584	30	85	7	61,705	66,030	198	116	21	18	4	93
Wash.	50	4	10	-	4,692	4,756	28	22	2	8	2	12
Oreg.	34	-	-	-	2,490	3,204	35	10	5	-	-	-
Calif.	1,475	19	73	7	52,299	55,612	134	81	14	10	2	64
Alaska	9	1	2	-	1,504	1,509	1	3	-	-	-	-
Hawaii	16	6	-	-	720	949	-	-	-	-	-	17
Guam	-	-	-	-	82	95	-	-	-	-	-	1
P.R.	57	7	3	-	1,176	1,887	9	37	1	20	-	7
V.I.	2	-	-	-	123	257	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	177	502	2	-	-	-	-	18
Amer Samoa	-	-	-	-	26	-	1	-	-	-	-	1

N Not notifiable

U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
July 5, 1986 and July 6, 1985 (27th Week)

Reporting Area	Measles (Rubella)					Menin- gococcal Infections	Mumps		Pertussis			Rubella			
	Malina	Indigenous		Imported *			Total	1986	Cum 1986	1986	Cum 1986	Cum 1985	1986	Cum 1986	Cum 1985
	Cum 1986	1986	Cum 1986	1986	Cum 1986	Cum 1985									
UNITED STATES	442	133	3,883	5	202	1,904	1,514	161	2,429	48	1,332	888	6	298	382
NEW ENGLAND	26	6	60	-	4	119	108	2	45	12	78	44	-	8	9
Maine	1	5	7	-	-	-	23	-	-	-	2	3	-	-	-
N.H.	1	1	29	-	-	-	6	2	12	6	34	23	-	1	2
Vt.	1	-	-	-	-	-	14	-	2	-	3	2	-	-	-
Mass.	13	-	21	-	3	112	21	-	3	6	22	6	-	4	6
R.I.	4	-	2	-	-	-	15	-	9	-	1	5	-	2	-
Conn.	6	-	1	-	1	7	29	-	19	-	16	5	-	1	1
MID ATLANTIC	45	19	1,266	-	20	171	243	2	112	1	106	74	1	28	154
Upstate N.Y.	12	-	35	-	19	80	78	2	43	-	70	41	1	20	14
N.Y. City	12	19	333	-	1	47	47	-	5	-	3	9	-	5	117
N.J.	7	-	876	-	-	21	29	-	31	1	8	2	-	3	11
Pa.	14	-	22	-	-	23	89	-	33	-	25	22	-	-	12
E.N. CENTRAL	23	13	659	-	16	416	195	144	1,527	8	196	147	2	20	20
Ohio	7	-	-	-	10	45	83	3	92	6	80	20	-	-	-
Ind.	2	-	2	-	-	1	15	5	26	-	22	11	-	-	-
Ill.	7	13	423	-	3	260	49	116	1,032	2	24	20	2	14	5
Mich.	7	-	31	-	-	52	46	20	219	-	22	21	-	4	14
Wis.	-	-	203	-	3	58	2	-	158	-	48	75	-	2	1
W.N. CENTRAL	12	34	247	1	17	9	78	1	72	1	71	67	-	9	19
Minn.	4	2	42	-	4	4	16	-	1	1	32	15	-	-	2
Iowa	1	31	71	-	1	-	10	1	16	-	9	4	-	1	1
Mo.	4	-	17	-	6	2	26	-	14	-	5	13	-	1	7
N. Dak.	-	-	23	-	1	2	-	-	3	-	3	8	-	-	2
S. Dak.	-	-	-	-	-	-	4	-	1	-	11	1	-	-	-
Nebr.	2	-	-	-	-	-	9	-	-	-	-	4	-	-	-
Kans.	1	1	94	1	5	1	13	-	37	-	11	22	-	7	7
S. ATLANTIC	56	18	408	1	51	211	294	2	131	6	468	187	-	9	39
Del.	1	-	1	-	-	-	2	-	-	-	219	-	-	-	1
Md.	10	1	20	1	9	52	39	-	10	2	99	75	-	-	1
D.C.	-	-	-	-	-	3	4	-	-	-	-	-	-	-	-
Va.	11	5	30	-	24	19	50	-	25	3	19	5	-	-	2
W. Va.	3	-	2	-	-	31	3	1	35	-	10	1	-	-	9
N.C.	4	-	1	-	1	9	49	-	12	-	20	9	-	-	-
S.C.	3	-	274	-	-	-	25	1	12	-	5	-	-	-	3
Ge.	5	12	68	-	14	8	45	-	12	1	75	58	-	-	-
Fla.	19	-	12	-	3	89	77	-	25	-	21	35	-	9	23
E.S. CENTRAL	13	2	45	1	1	2	84	-	20	-	22	12	-	1	2
Ky.	3	-	-	-	-	-	17	-	3	-	1	3	-	1	2
Tenn.	-	2	43	1	1	1	33	-	14	-	5	5	-	-	-
Ala.	6	-	-	-	-	-	23	-	2	-	16	2	-	-	-
Miss.	4	-	2	-	-	1	11	-	1	-	-	2	-	-	-
W.S. CENTRAL	38	-	506	-	28	302	125	-	137	1	97	134	-	52	22
Ark.	-	-	276	-	2	-	18	-	7	1	7	12	-	-	1
La.	4	-	2	-	-	34	17	-	2	-	6	5	-	-	-
Okla.	5	-	10	-	2	-	17	N	N	-	56	80	-	-	1
Tex.	29	-	218	-	24	268	73	-	128	-	28	37	-	52	20
MOUNTAIN	17	1	268	-	25	468	77	1	189	3	128	43	-	17	4
Mont.	-	-	1	-	7	137	7	-	5	1	6	3	-	1	-
Idaho	1	-	1	-	-	126	2	-	4	-	27	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-
Colo.	6	-	-	-	5	6	12	-	11	-	38	13	-	1	-
N. Mex.	1	1	26	-	7	3	6	N	N	2	14	5	-	-	2
Ariz.	5	-	237	-	6	196	15	1	157	-	28	13	-	2	1
Utah	2	-	1	-	-	-	11	-	9	-	14	9	-	10	-
Nev.	2	-	-	-	-	-	22	-	3	-	-	-	-	3	-
PACIFIC	212	40	424	2	40	206	310	9	196	16	166	194	3	154	113
Wash.	18	32	109	1	23	32	44	-	7	4	56	27	-	8	11
Oreg.	14	2	2	-	4	3	22	N	N	-	9	21	-	-	1
Calif.	180	6	294	1	12	153	234	9	175	11	93	122	3	144	87
Alaska	-	-	-	-	-	-	9	-	5	-	2	11	-	-	1
Hawaii	-	-	19	-	1	18	1	-	9	1	6	3	-	2	33
Guam	1	1	4	1	1	11	-	-	4	-	-	-	-	2	1
P.R.	4	-	18	-	-	48	3	-	20	-	7	5	-	58	22
V.I.	-	-	-	-	-	10	-	-	11	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	-	5	-	-	-	-	-	-
Amer. Samoa	-	-	2	-	-	-	-	-	1	-	-	-	-	1	-

*For measles only, imported cases includes both out-of-state and international importations.

N Not notifiable U Unavailable [†]International [§]Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending
July 5, 1986 and July 6, 1985 (27th Week)

Reporting Area	Syphilis (Chlantan) (Primary & Secondary)		Toxic shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies Animal
	Cum 1986	Cum 1985		Cum 1986	Cum 1985				
UNITED STATES	13,071	12,779	4	10,800	10,625	49	131	285	2,873
NEW ENGLAND	264	279	-	335	338	-	6	3	3
Maine	15	8	-	27	25	-	-	-	-
N.H.	10	6	-	10	14	-	-	-	-
Vt.	6	3	-	10	4	-	-	-	-
Mass.	137	145	-	160	198	-	5	2	-
R.I.	16	7	-	24	32	-	-	-	1
Conn.	80	110	-	104	65	-	1	1	2
MID ATLANTIC	1,052	1,779	1	2,163	1,935	-	13	8	330
Upstate N.Y.	94	117	-	314	325	-	2	1	36
N.Y. City	1,047	1,104	-	1,103	977	-	5	3	-
N.J.	344	363	-	376	242	-	5	1	9
Pa.	367	195	1	370	391	-	1	3	285
E.N. CENTRAL	547	599	2	1,337	1,269	-	8	48	66
Ohio	71	74	-	222	223	-	1	47	5
Ind.	63	61	-	143	159	-	-	-	10
Ill.	294	311	-	601	562	-	1	1	20
Mich.	91	121	2	310	258	-	5	-	14
Wis.	28	32	-	61	67	-	1	-	17
W.N. CENTRAL	127	124	-	303	287	13	5	17	464
Minn.	21	28	-	78	58	-	1	1	53
Iowa	6	14	-	23	38	1	-	1	104
Mo.	68	58	-	150	133	10	4	5	50
N. Dak.	2	1	-	4	2	-	-	-	105
S. Dak.	2	4	-	14	15	2	-	3	101
Nebr.	11	6	-	5	12	-	-	3	12
Kans.	17	13	-	29	29	-	-	4	39
S. ATLANTIC	3,796	3,175	-	2,079	2,198	6	15	124	659
Del.	27	17	-	21	23	-	-	1	-
Md.	225	213	-	154	202	1	4	13	346
D.C.	171	190	-	70	97	-	1	-	-
Va.	203	157	-	179	195	2	4	20	100
W. Va.	11	9	-	60	57	-	2	5	14
N.C.	259	344	-	303	266	1	2	40	4
S.C.	331	409	-	268	298	-	-	36	26
Ga.	637	-	-	295	336	2	-	9	88
Fla.	1,932	1,836	-	729	724	-	2	-	81
E.S. CENTRAL	897	1,042	-	974	956	6	1	36	155
Ky.	43	34	-	245	207	2	-	5	53
Tenn.	328	307	-	293	299	3	-	16	56
Ala.	285	328	-	300	299	1	-	8	45
Miss.	240	373	-	136	151	-	1	7	1
W.S. CENTRAL	2,746	3,187	-	1,347	1,281	21	11	43	445
Ark.	138	167	-	180	146	13	-	2	107
La.	456	556	-	228	179	1	-	-	13
Okla.	74	90	-	121	143	5	1	33	38
Tex.	2,078	2,374	-	818	813	2	10	6	287
MOUNTAIN	321	397	1	241	250	2	7	6	419
Mont.	6	2	-	11	29	-	1	3	152
Idaho	6	3	1	10	13	-	-	-	-
Wyo.	-	6	-	-	5	-	-	1	194
Colo.	81	94	-	13	30	-	1	2	-
N. Mex.	44	62	-	53	49	1	-	-	4
Ariz.	132	205	-	118	105	-	2	-	68
Utah	9	4	-	21	6	1	2	-	-
Nev.	43	21	-	15	13	-	-	-	1
PACIFIC	2,521	2,197	-	2,021	2,111	1	65	-	322
Wash.	52	66	-	102	118	-	3	-	2
Oreg.	58	44	-	69	72	-	-	-	-
Calif.	2,391	2,043	-	1,715	1,761	-	58	-	322
Alaska	1	2	-	27	66	1	1	-	8
Hawaii	21	42	-	108	98	-	3	-	-
GUM	1	2	-	31	24	-	-	-	-
P.R.	419	428	-	147	181	-	4	-	26
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	147	49	-	28	35	-	39	-	-
Amer. Samoa	-	-	-	3	-	-	-	-	-

U Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
July 5, 1986 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	583	414	96	34	19	20	54	S ATLANTIC	1,213	654	282	156	56	63	44
Boston, Mass	162	98	29	16	8	11	19	Atlanta, Ga	144	68	47	20	6	3	2
Bridgeport, Conn	38	26	7	3	2	-	3	Baltimore, Md	185	99	48	12	6	20	4
Cambridge, Mass	28	22	4	1	1	-	6	Charlotte, N.C	72	41	12	8	5	6	4
Fall River, Mass	20	16	4	-	-	-	-	Jacksonville, Fla	81	52	17	3	8	1	5
Hartford, Conn	45	25	11	5	2	2	1	Miami, Fla §	97	54	25	13	2	3	2
Lowell, Mass	33	27	5	1	-	-	5	Norfolk, Va	56	32	17	3	2	2	2
Lynn, Mass	17	12	4	1	-	-	-	Richmond, Va	69	39	18	7	1	4	6
New Bedford, Mass	20	17	2	-	-	1	1	Savannah, Ga	34	21	10	1	2	-	5
New Haven, Conn	49	30	10	4	3	2	5	St Petersburg, Fla	107	92	11	1	2	1	5
Providence, R.I	29	24	1	-	2	2	2	Tampa, Fla	80	43	15	7	7	6	3
Somerville, Mass	7	7	-	-	-	-	1	Washington D.C	265	95	59	80	14	17	6
Springfield, Mass	40	29	10	-	-	1	2	Wilmington, Del	23	18	3	1	1	-	-
Worcester, Mass	34	31	1	1	1	-	4								
	60	50	8	1	-	1	5								
MID ATLANTIC	2,411	1,513	512	258	74	54	100	E S CENTRAL	701	435	170	42	26	28	26
Albany, N.Y	46	29	9	2	3	-	3	Birmingham, Ala	114	65	31	5	8	5	1
Allentown, Pa	16	12	2	-	-	-	-	Chattanooga, Tenn	55	35	16	2	1	1	-
Buffalo, N.Y	127	78	27	13	3	6	5	Knoxville, Tenn	72	49	16	3	1	3	2
Camden, N.J	33	16	7	4	3	3	1	Louisville, Ky	79	47	21	6	1	4	3
Elizabeth, N.J	17	11	2	4	-	-	2	Memphis, Tenn	180	109	39	12	8	12	8
Erie, Pa †	37	28	8	1	-	-	2	Mobile, Ala	66	41	16	4	2	3	5
Jersey City, N.J	46	29	6	8	3	-	2	Montgomery, Ala	35	27	7	-	1	-	1
N.Y. City, N.Y	1,145	682	244	160	41	18	46	Nashville, Tenn	100	62	24	10	4	-	6
Newark, N.J	54	22	17	10	2	3	-								
Paterson, N.J	31	20	10	-	-	1	2	W S CENTRAL	1,060	636	235	99	45	44	42
Philadelphia, Pa §	372	249	84	27	5	7	18	Austin, Tex	32	18	7	4	1	2	1
Pittsburgh, Pa †	56	34	9	6	3	4	3	Baton Rouge, La	17	10	5	1	-	-	-
Reading, Pa	53	41	6	4	2	-	4	Corpus Christi, Tex	20	15	2	-	1	1	-
Rochester, N.Y	101	69	21	4	3	4	5	Dallas, Tex	182	93	54	17	5	13	5
Schenectady, N.Y	23	16	3	4	-	-	1	El Paso, Tex	44	26	3	1	3	1	4
Scranton, Pa †	15	9	4	-	2	-	-	Fort Worth, Tex	102	69	20	4	4	5	1
Syracuse, N.Y	153	105	37	3	3	5	7	Houston, Tex	284	148	70	43	14	9	8
Trenton, N.J	42	28	10	3	1	-	-	Little Rock, Ark	42	31	6	3	-	2	4
Utica, N.Y	17	12	4	1	-	-	1	New Orleans, La	73	37	18	10	6	2	4
Yonkers, N.Y	27	23	2	2	-	-	1	San Antonio, Tex	139	83	29	11	10	6	11
								Shreveport, La	57	44	12	1	-	-	2
								Tulsa, Okla	68	52	9	4	1	2	6
E N CENTRAL	2,164	1,383	479	150	79	73	71	MOUNTAIN	562	346	124	43	29	20	29
Akron, Ohio	66	40	18	5	1	2	-	Albuquerque, N.Mex	77	43	22	5	7	-	2
Canton, Ohio	34	20	8	1	3	2	1	Colorado Springs, Colo	47	33	8	4	1	1	8
Chicago, Ill §	564	362	125	45	10	22	16	Denver, Colo	88	52	20	7	3	6	2
Cincinnati, Ohio	241	169	47	11	10	4	12	Las Vegas, Nev	58	32	20	5	1	-	5
Cleveland, Ohio	133	82	33	10	3	5	-	Ogden, Utah	18	11	6	1	-	-	2
Columbus, Ohio	133	85	31	10	2	5	3	Phoenix, Ariz	103	64	20	5	9	5	4
Dayton, Ohio	92	53	24	7	5	3	3	Pueblo, Colo	29	26	2	1	-	-	4
Detroit, Mich	165	80	37	21	17	10	1	Salt Lake City, Utah	51	26	7	5	8	5	-
Evansville, Ind	46	32	7	5	1	1	1	Tucson, Ariz	91	59	19	10	-	3	2
Fort Wayne, Ind	37	24	7	3	3	-	3								
Gary, Ind	16	7	7	2	-	-	1								
Grand Rapids, Mich	18	16	1	1	-	-	2	PACIFIC	1,524	970	301	153	54	43	86
Indianapolis, Ind	207	124	48	14	15	6	5	Berkeley, Calif	26	16	2	1	-	7	-
Madison, Wis §	35	26	6	2	1	-	3	Fresno, Calif	51	26	10	2	6	7	5
Milwaukee, Wis	140	107	24	5	1	3	9	Glendale, Calif	13	10	2	1	-	-	1
Peoria, Ill	37	25	9	-	-	3	3	Honolulu, Hawaii	56	34	14	4	2	2	5
Rockford, Ill	26	16	6	-	2	2	2	Long Beach, Calif	78	53	14	6	4	1	7
South Bend, Ind	42	26	11	3	1	1	2	Los Angeles, Calif	381	237	83	46	9	4	11
Toledo, Ohio	83	55	19	3	2	4	3	Oakland, Calif	83	57	12	10	2	2	6
Youngstown, Ohio	49	34	11	2	2	-	1	Pasadena, Calif	23	16	3	2	-	2	-
								Portland, Ore	92	59	19	7	6	1	5
W N CENTRAL	666	439	136	38	27	26	26	Sacramento, Calif	95	54	22	8	3	7	6
Des Moines, Iowa	87	60	16	6	5	-	3	San Diego, Calif	126	81	25	13	7	-	13
Duluth, Minn	17	14	2	-	1	-	1	San Francisco, Calif	123	76	28	15	2	2	7
Kansas City, Kans	31	20	3	4	3	1	2	San Jose, Calif	159	105	28	15	7	4	9
Kansas City, Mo	119	77	28	5	5	4	8	Seattle, Wash	125	85	21	13	4	2	7
Lincoln, Nebr	20	14	4	1	1	-	-	Spokane, Wash	52	33	11	5	2	1	4
Minneapolis, Minn §	89	55	19	7	3	5	2	Tacoma, Wash	41	28	7	5	-	1	-
Omaha, Nebr	74	49	17	3	3	2	6								
St Louis, Mo	140	97	27	6	3	7	4	TOTAL	10,884	6,790	2,335	973	409	371	478
St Paul, Minn	46	26	11	4	-	5	-								
Wichita, Kans	43	27	9	2	3	2	-								

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

‡ Total includes unknown ages

§ Data not available. Figures are estimates based on average of past 4 weeks.

Carbon Monoxide Exposures — Continued

COHb level of 5% or less. These recommendations do not take into account the smoking habits of the workers. COHb levels in smokers have generally been found in the 4%-5% range but may run as high as 10%-15% in heavy smokers. Thus, moderate smokers with blood levels of 5% who are then exposed to an average concentration of 35 ppm CO in a workplace may have a total COHb concentration of about 10%.

At the time of this study, no health complaints could be attributed to CO exposure. However, at least one worker had some respiratory complaints that may have been related, in part, to exposure to resurfacer exhaust. Because individual exposures to CO were slightly higher than desirable (average COHb by the end of the day was over 5%), NIOSH investigators made the following recommendations:

1. The room in which the ice-resurfacing machine is stored should be fitted with an exhaust system; this should include a flexible hose that can be attached to the machine exhaust during warm-up.
2. The resurfacing machines should be well maintained to keep CO emissions as low as possible.
3. The operator of the resurfacing machine should be very familiar with its use, thus making the procedure quicker and helping to eliminate some CO exposure.
4. Fresh air should be forced into the rink area toward the exhaust fan, particularly after each resurfacing.

The problem of CO exposures associated with ice skating rinks has been reported previously (8,9). Because 10,000 persons in the United States seek medical attention each year after exposure to CO gas, and because approximately 1,500 persons die of CO poisoning (10), the monitoring of CO levels at such rinks would be a prudent public health measure.

References

1. National Institute for Occupational Safety and Health. Health hazard evaluation report no. HETA 84-299-1524. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1984.
2. National Institute for Occupational Safety and Health. Criteria for a recommended standard: occupational exposure to carbon monoxide. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1973. (DHEW [NIOSH] publication no. 73-11000).
3. Haldane JBS. The dissociation of oxyhemoglobin in human blood during partial carbon dioxide poisoning. *J Physiol* 1912;45:22.
4. Turino GM. Effect of carbon monoxide on the cardiorespiratory system. Carbon monoxide toxicity: physiology and biochemistry. *Circulation* 1981;63:253A-59A.
5. McGrath JJ, Barnes CD, eds. Air pollution—physiological effects. New York: Academic Press, 1982.
6. Vogel JA, Gleser MA. Effect of carbon monoxide on oxygen transport during exercise. *J Appl Physiol* 1972;32:234-9.
7. Ayres SM, Gianelli S Jr, Mueller H. Myocardial and systemic responses to carboxyhemoglobin. *Ann NY Acad Sci* 1970;174:268-93.
8. CDC. Carbon monoxide intoxication associated with use of a gasoline-powered resurfacing machine at an ice-skating rink—Pennsylvania. *MMWR* 1984;33:49-51.
9. Davis BP, Drenchen A. Carbon monoxide of concern in ice arenas. *J Environ Health* 1979;42:120-2.
10. CDC. Carbon monoxide fact sheet. Atlanta, Georgia: Centers for Disease Control, 1979.

Behavioral Risk-Factor Surveillance in Selected States — 1985

The behavioral risk-factor surveillance system (BRFSS) operated for its second year in 1985. BRFSS data were collected from adults in 21 states and the District of Columbia by monthly telephone interviews with use of random-digit-dialing techniques. The interviews were conducted with a standard questionnaire and procedures developed jointly by the state health departments and CDC. The risk factors assessed included self-reported overweight, sedentary lifestyle, uncontrolled hypertension, cigarette smoking, alcohol misuse, and seatbelt

Behavioral Risk-Factor Surveillance — Continued

nonuse for persons 18 years of age and older (Tables 1 and 2). The results presented here are weighted to take into account the age, race, and sex distribution of adults in each state, as well as the respondents' probability of selection, and are therefore representative of the adult populations of the participating states.

The data allow state health departments to compare the prevalence of risk behaviors associated with the 10 leading causes of premature death among adults in their states with similar data for adults in other participating states. These data will be used to monitor trends and to help assess the effectiveness of statewide programs to reduce the prevalence of these behaviors.

Between 1984 (1) and 1985, all 15 states in which data were collected for both years showed some increase in the prevalence of seatbelt use. Three of these states (Ohio, North Carolina, and Illinois) reported substantial increases of between 10.4% and 18.6%.

Other possible trends between 1984 and 1985 occurred in drinking and driving. In 14 of the 15 states, the prevalence of those admitting to driving "after having, perhaps, too much to drink" decreased, while the prevalence in one state (South Carolina) increased slightly. In 12 of 15 states, decreases were reported in binge drinking, defined as having five or more alcoholic drinks on one occasion during the previous month, while increases were reported in three states (Indiana, Utah, and West Virginia).

TABLE 1. Cardiovascular-related behavioral risk-factor rates* in 21 states and the District of Columbia — United States, 1985

State	Sample size	Overweight [†]		Sedentary lifestyle [§]		Uncontrolled hypertension [¶]		Current Smoker ^{**}	
		%	95% CI ^{††}	%	95% CI	%	95% CI	%	95% CI
Arizona	1,175	20.2	±2.5	46.1	±3.2	1.2	±0.6	26.4	±2.7
California	1,372	17.7	±2.3	53.5	±3.1	2.1	±0.9	25.6	±2.5
Connecticut	983	18.0	±2.5	52.8	±4.2	1.1	±0.8	26.7	±2.4
District of Columbia	726	19.3	±3.3	54.9	±4.3	0.8	±0.8	26.0	±4.0
Florida	776	21.6	±3.2	51.5	±3.9	1.3	±0.9	27.2	±3.5
Georgia	818	21.0	±3.2	63.8	±3.6	1.9	±1.0	28.7	±3.5
Idaho	1,179	20.7	±2.6	44.2	±3.5	2.0	±0.9	23.7	±2.8
Illinois	1,148	22.5	±2.6	52.4	±3.4	1.9	±0.9	26.2	±2.7
Indiana	1,182	27.6	±3.0	64.5	±3.2	2.4	±0.9	32.2	±3.1
Kentucky	803	25.9	±3.1	61.4	±3.6	1.6	±0.9	29.2	±3.3
Minnesota	2,386	20.4	±1.8	55.7	±2.3	1.4	±0.5	27.8	±2.0
Montana	1,183	20.3	±2.6	45.0	±3.1	1.6	±0.8	24.6	±2.5
New York	1,174	21.3	±2.8	51.5	±3.5	1.1	±0.7	31.4	±3.2
North Carolina	1,528	19.5	±2.1	57.7	±2.8	1.4	±0.7	27.4	±2.5
North Dakota	625	24.7	±4.0	54.6	±4.5	1.0	±1.2	25.6	±4.3
Ohio	1,156	25.9	±2.9	61.3	±3.1	1.8	±0.8	28.7	±2.9
Rhode Island	1,277	21.1	±2.6	65.1	±3.1	1.4	±0.7	29.4	±2.7
South Carolina	1,216	23.2	±2.6	64.5	±3.3	1.8	±0.8	29.2	±3.2
Tennessee	1,207	22.0	±2.7	67.8	±3.1	2.1	±0.9	27.5	±3.0
Utah	1,162	17.7	±2.5	47.5	±3.4	1.6	±0.7	15.6	±2.4
West Virginia	1,177	27.4	±3.0	61.7	±3.0	2.5	±0.9	26.7	±2.8
Wisconsin	965	26.6	±3.0	53.5	±3.5	1.2	±0.8	24.6	±3.0

*Percentages.

[†]One hundred twenty percent or more of ideal weight (ideal weight defined as the mid-value of the medium frame person on the 1959 Metropolitan Life Insurance Company height/weight tables).

[§]Person with less than 20 minutes of leisure-time physical activity at least three times per week.

[¶]Person who reports having been told by a medical professional that he/she is hypertensive and still has high blood pressure.

^{**}Current cigarette smoker.

^{††}CI = Confidence interval.

Behavioral Risk-Factor Surveillance — Continued

Reported by R Brooks, Office of Health Education, Arizona Dept of Health Svcs; F Capell, Health Education-Risk Reduction Program, California Dept of Health Svcs; S Benn, Chronic Disease Control Section, Connecticut State Dept of Health Svcs; R Conn, EdD, Preventive Health Svcs Administration, District of Columbia Dept of Human Svcs; WW Mahoney, Health Promotion Program, Florida Dept of Health and Rehabilitative Svcs; JD Smith, Div of Public Health, Georgia Dept of Human Resources; JV Patterson, Health Education Section, Bureau of Preventative Medicine, Idaho Dept of Health and Welfare; D Patterson, Div of Education and Information, Illinois Dept of Public Health; S Jain, Div of Health Education, Indiana State Board of Health; K Bramblett, Dept of Health Svcs, Kentucky Cabinet for Human Resources; N Salem, PhD, Minnesota Center for Health Statistics; R Moon, Health Education and Promotion Program, Montana Dept of Health and Environmental Sciences; T Gerber, Bureau of Adult and Gerontological Health, New York State Dept of Health; R Staton, Health Promotion Br, Div of Health Svcs, North Carolina Dept of Human Resources; B Le, Div of Research, Information and Support, North Dakota State Dept of Health; E Capwell, Ohio Dept of Health, Bureau of Preventive Medicine; Janice Cataldo, Div of Health Promotion, Rhode Island Dept of Health; FC Wheeler, Div of Chronic Disease, South Carolina Dept of Health and Environmental Control; J Fortune, Div of Health Promotion, Tennessee Dept of Health and Environment; GV Lindsay, Bureau of Health Promotion and Risk Reduction, Div of Community Health Svcs, Utah Dept of Health; R Anderson, Health Education Dept, West Virginia Dept of Health; DR Murray, Wisconsin Center for Health Statistics; Div of Nutrition, Center for Health Promotion and Education, CDC.

Editorial Note: Although some participating states reported certain differences in rates of behavioral risk factors for 1984 and 1985, it is too early, after only 2 years of data collection,

TABLE 2. Alcohol- and driving-related behavioral risk-factor rates* in 21 states and the District of Columbia — United States, 1985

State	Sample size	Binge drinking [†]		Heavier drinking [§]		Drinking & driving [¶]		Seatbelt nonuse ^{**}	
		%	95% CI ^{††}	%	95% CI	%	95% CI	%	95% CI
Arizona	1,175	19.0	±2.8	9.3	±1.9	5.6	±1.6	54.1	±3.1
California	1,372	17.3	±2.4	8.2	±1.7	3.3	±1.0	47.0	±3.2
Connecticut	983	20.6	±3.3	9.2	±2.1	5.8	±1.5	58.2	±3.1
District of Columbia	726	15.2	±3.3	6.3	±1.9	2.6	±1.3	50.6	±4.4
Florida	776	17.3	±3.4	9.3	±2.5	3.4	±1.4	57.3	±3.9
Georgia	818	15.3	±2.9	5.9	±2.2	3.9	±1.5	63.3	±3.8
Idaho	1,179	15.6	±2.6	5.9	±1.6	3.3	±1.3	65.8	±3.1
Illinois	1,148	21.2	±2.7	10.9	±2.1	6.3	±1.6	49.6	±3.7
Indiana	1,182	19.3	±2.6	4.9	±1.5	3.8	±1.3	69.2	±3.1
Kentucky	803	8.8	±2.4	5.2	±1.8	1.7	±1.2	68.5	±3.7
Minnesota	2,386	23.3	±2.0	6.6	±1.1	6.8	±1.2	65.0	±2.2
Montana	1,183	22.4	±2.8	5.9	±1.5	5.5	±1.8	67.5	±3.1
New York	1,174	19.0	±2.8	8.9	±2.0	4.2	±1.5	17.6	±2.5
North Carolina	1,528	12.6	±2.0	4.9	±1.2	3.7	±1.2	54.8	±3.1
North Dakota	625	24.0	±4.1	3.7	±1.6	9.8	±3.3	77.2	±3.8
Ohio	1,156	19.8	±2.9	7.5	±1.9	4.5	±1.5	58.2	±3.1
Rhode Island	1,277	12.9	±2.1	6.1	±1.5	3.0	±1.0	69.9	±2.9
South Carolina	1,216	9.8	±2.1	5.2	±1.6	3.3	±1.4	65.6	±3.1
Tennessee	1,207	6.3	±1.7	5.0	±1.6	1.7	±0.3	65.1	±3.0
Utah	1,162	12.2	±2.3	3.0	±1.1	2.5	±1.1	61.4	±3.2
West Virginia	1,177	13.6	±2.4	4.6	±1.5	2.8	±1.2	70.9	±3.1
Wisconsin	965	27.3	±3.2	9.4	±2.1	9.3	±2.1	64.0	±3.3

*Percentages.

[†]Person who drank five or more drinks on an occasion one or more times in the past month.

[§]Person whose average total alcoholic beverage intake exceeds 60 drinks per month.

[¶]Person who states he/she has driven after having too much to drink one or more times in the past month.

^{**}Person who states he/she sometimes, seldom, or never uses a seatbelt when riding in or driving a car. Seatbelt data are presented as the prevalence of "nonuse" to portray risk.

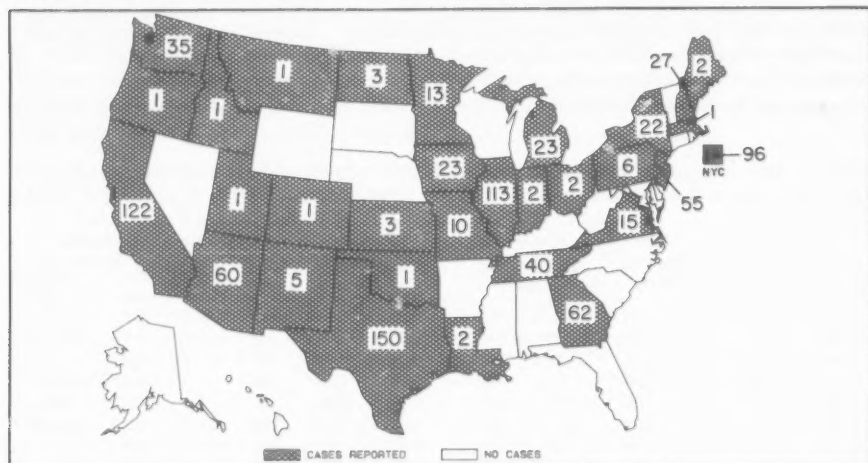
^{††}CI = Confidence interval.

Behavioral Risk-Factor Surveillance — Continued

to positively identify these differences as trends. With continued data collection, long-term changes in patterns of behavioral risk factors should be recognized. For example, since 1984, 26 states have attempted to decrease mortality resulting from motor vehicle accidents among their residents by passing a variety of laws mandating the use of seatbelts. It may be significant that in two of the three states with the largest increase in self-reported rates of seatbelt use (Illinois and North Carolina), mandatory seatbelt laws became effective in 1985. The BRFSS promises to be an excellent mechanism for monitoring seatbelt use in states with such laws.

Reference

1. CDC. Behavioral risk-factor surveillance — selected states, 1984. MMWR 1986;35:253-4.

FIGURE 1. Reported measles cases — United States, weeks 23-26, 1986

U.S. Government Printing Office: 1986-746-149/40011 Region IV

UNITED STATES GOVERNMENT PRINTING OFFICE
SUPERINTENDENT OF DOCUMENTS
Washington, D.C. 20402

OFFICIAL BUSINESS

Penalty for Private Use, \$300

**BULK RATE
POSTAGE & FEES PAID
GPO
Permit No. G-26**

NEWARK PUBLIC LIBRARY

MMWK NEWARKUUN DK 3/6 1 **
NEWARK PUBLIC LIBR **
5 WASHINGTON ST **
NEWARK NJ 07101 **

JUL 22 1986

U. S. GOVT. PUBL.
DEPOSITORY 376

